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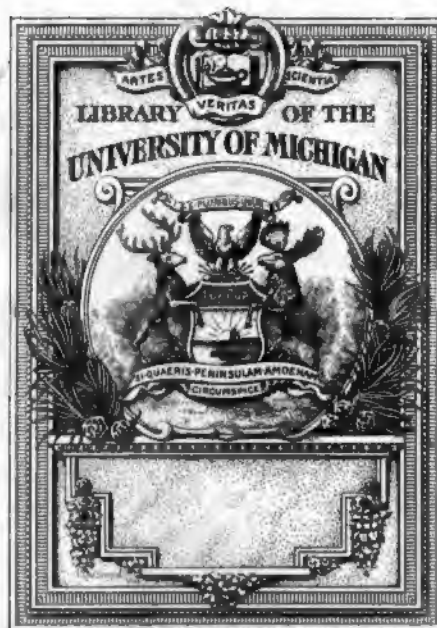
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ANNUAL REPORT

OF THE

SECRETARY OF WAR

111016

FOR

THE YEAR 1895.

IN THREE VOLUMES.

VOLUME I.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1895.

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REPORT

OF

THE SECRETARY OF WAR.

WAR DEPARTMENT,
Washington, November 26, 1895.

To the PRESIDENT:

I have the honor to submit the following annual report of the operations of this Department for the past year.

The expenditures for the fiscal year ended June 30, 1895, the appropriations for the present year, and the estimates of amounts required for the year beginning July 1, 1896, are shown in the following statement:

Title.	Expenditures for fiscal year ended June 30, 1895.	Appropriations for fiscal year ending June 30, 1896.	Estimates for fiscal year ending June 30, 1897.
Salaries and contingent expenses	\$1, 574, 169. 22	\$1, 498, 996. 00	\$1, 506, 896. 00
Pay, etc., of the Army	12, 924, 834. 56	13, 002, 618. 09	13, 543, 464. 63
Subsistence of the Army	1, 622, 876. 80	1, 650, 000. 00	1, 754, 321. 40
Regular supplies, Quartermaster's Department	2, 032, 788. 80	2, 300, 000. 00	2, 300, 000. 00
Incidental expenses, Quartermaster's Department ...	565, 704. 86	600, 006. 00	600, 000. 00
Barracks, quarters, and hospital construction	725, 178. 41	802, 000. 00	860, 000. 00
Shooting ranges, and contingencies of the Army ...	19, 658. 62	25, 000. 00	25, 000. 00
Cavalry and artillery horses	70, 185. 14	80, 000. 00	100, 000. 00
Army transportation	2, 391, 293. 76	2, 450, 000. 00	2, 500, 000. 00
Clothing, and camp and garrison equipage	900, 790. 62	1, 100, 000. 00	1, 100, 000. 00
Expenses of recruiting	60, 512. 56	.....	.....
Medical Department	119, 119. 92	173, 500. 00	165, 500. 00
Ordnance Department	1, 153, 582. 02	1, 026, 600. 00	1, 101, 600. 00
Military Academy	705, 849. 26	464, 261. 66	619, 169. 61
Fortifications and seacoast defenses	2, 354, 598. 90	1, 904, 557. 50	7, 414, 633. 00
Arsenals, etc	340, 710. 24	259, 250. 00	548, 436. 50
Rivers and harbors	19, 506, 094. 47	11, 452, 115. 00	11, 744, 597. 00
Parks, cemeteries, military posts, etc	983, 142. 32	769, 301. 00	1, 469, 880. 00
National Soldiers' Homes	2, 593, 058. 52	3, 139, 846. 00	3, 491, 707. 26
Artificial limbs, etc	201, 684. 69	132, 000. 00	577, 000. 00
Buildings and grounds at Washington	109, 253. 20	155, 036. 50	148, 109. 70
Miscellaneous items	2, 032, 693. 55	481, 490. 00	375, 328. 35
Total	52, 987, 780. 44	43, 466, 571. 75	51, 945, 643. 45

OPERATIONS OF THE ARMY.

The reports of the officers in command of the several geographical departments show that the year has been tranquil and undisturbed by Indian outbreaks, domestic violence, or troubles on the border. Steady and general effort to improve the service has brought the troops everywhere to a highly satisfactory condition as to discipline, efficiency in military exercises, and soldierly, patriotic spirit. The Army is better fed, clothed, and housed than ever before, and the policy zealously pursued of promoting the personal comfort of the officers and men has resulted in a devotion to the service which is everywhere apparent. It can be said with confidence that never in its history has the present condition of the Army been surpassed.

Late in July, in compliance with the request of the Secretary of the Interior, prompted by dispatches from the governor of the State, a squadron of cavalry and a battalion of infantry were ordered to the Jacksons Hole country in Wyoming to prevent conflict between citizens and Indians, protect the lives of the settlers, and return the Indians, chiefly of the Bannock tribe, to their reservations. None of the reports of conflicts extensively published were verified, and upon the approach of the troops the Indians, who it transpired were engaged in hunting under their treaty rights, quietly retired to their reservations. The only casualties of the affair were the death of one Indian and the wounding of another, who were shot by a local constable and his deputies, from whom they were endeavoring to escape. No injury whatever was done to the life or property of any settler.

STRENGTH OF THE ARMY.

The full strength of the Army authorized by law is now:

Cavalry officers.....	432
Artillery officers.....	280
Infantry officers.....	877
<hr/>	
Total officers of the line.....	1,589
General officers and in staff departments.....	537
<hr/>	
Total officers.....	2,126
<hr/>	
Enlisted men of cavalry.....	6,170
Enlisted men of artillery.....	4,025

Enlisted men of infantry	13, 125
Enlisted men of engineers.....	500
<hr/>	
Total enlisted men in companies and regiments.....	23, 820
Enlisted men in detachments and unassigned to regiments.....	1, 180
<hr/>	
Total authorized under act June 18, 1874	25, 000
Enlisted men, hospital corps, act March 1, 1887	706
<hr/>	
Total all enlisted men.....	25, 706

The number of enlisted men in service on October 31 was 25,358. Deducting the sick, those in confinement, recruits not yet joined, those absent on furlough, and others employed in staff departments or on detached service, the effective field strength on the same date was 20,584 of all arms.

For the last two years the Department has steadily pursued the policy of restoring officers to their commands and reducing, wherever possible, the number of those on detached duty. In January, 1893, the number of officers serving with their regiments was 1,013; in September last it was 1,229. On the former date officers on detached duty numbered 402, on the latter date 342. Officers of the line assigned to duty at Washington and at department headquarters have been reduced from 67 to 35, those on recruiting service have been reduced from 98 to 33, while assignments with the National Guard of the States, and as instructors at the military schools and colleges, have been increased from 92 to 128, and the number acting as Indian agents from 5 to 19.

THE RECRUITING SERVICE.

Changes established in the method of recruiting during the past two years have considerably reduced the cost of that service, while perceptibly increasing the effective strength of the Army. Nine recruiting stations have been closed within that time, and the number of officers detached on general recruiting service has decreased from 64 in September, 1894, to 24 in October, 1895. The effort to increase enlistments at posts, and thus reduce transportation, shows very satisfactory results. By the act of August 1, 1894, enlistments were confined to citizens, or those who had declared their intentions to become such, not over 30 years of age, and able to speak, read, and write the English language. This law has greatly improved the personnel of the Army and has not impeded required enlistments. Of the 7,780 men recruited during the year, 5,518 were native born and 2,262 foreign born. The strictness of the examinations, physical,

mental, and moral, may be measured from the fact that 38,240 applicants were rejected.

GENERAL CONDITIONS.

The operations of the Quartermaster's Department during the year, as well as for the whole period of the present Quartermaster General's incumbency, about to close, have been conducted with marked economy and efficiency. Excellent progress has been made during the year in the construction of new barracks and quarters. Fort Harrison, at Helena, Mont., and Fort Crook, at Omaha, are already garrisoned, and the established post at Little Rock will be occupied early in the coming year, while new buildings at Fort Myer and elsewhere will soon provide for additional troops. General repairs and care in renovation have put many of the older posts in good condition.

The receipts from the seventy-three post exchanges in operation were \$1,518,455, the expenses \$1,189,233, leaving a balance of \$329,222, of which \$255,837 were returned as dividends. Many of the exchanges now have libraries, gymnasiums, and appliances for out-of-door sports. The receipts of the canteens have been reduced from 75 per cent six years ago to 40 per cent during the present year.

The health record of the Army for the year is the best annual statement ever consolidated from the returns of the medical officers, for while the death rate is a fraction higher than the lowest ever recorded, the other rates are by far lower than they ever have been in the history of our service. The death rate from disease was 4.55, compared with 3.95 in 1889, the lowest rate recorded, and 5.64 the average for the last decade. The number of admissions to hospital per 1,000 mean strength was 845, compared with an average of 1,121 for the last ten years. The rate of nonefficiency was 34, compared with 42 for the last decade, and the average number of days lost by each man was 12.6, compared with 15.5 for the decade. Alcoholism, as a cause of nonefficiency, has notably declined in the past few years.

The trials by general court-martial for the year ended August 31, 1895, were 1,728, compared with 2,189 for the previous year; of inferior courts-martial 10,997, compared with 15,086 last year, thus corroborating the reports from all officers of a noteworthy improvement in the morale and discipline of the Army. Authority is again asked from Congress to compel civilians to testify before general courts-martial when such evidence is necessary.

PAY DEPARTMENT.

I concur in the recommendation of the Paymaster-General that the entire amount of pay earned by each enlisted man be paid to him monthly. The existing statutes which require a retention of a small part of each soldier's pay were enacted at a time when Army garrisons were scattered throughout the remote frontiers and the needs of the discharged soldier to enable him to reach the place of enlistment were much greater than now. At the end of five years each man would have due him \$72 of retained pay. The term of enlistment is now reduced to three years, and the retention during a first enlistment is only \$12, a sum that the soldier does not need to enable him to reach his home, and which he could better use from month to month as earned.

I also concur in the further recommendations of the Paymaster-General to the effect that there be established a uniform rate of commutation for subsistence and clothing of all retired enlisted men, and that credit sales of subsistence stores to enlisted men, except when serving in the field, be discontinued.

A considerable reduction by Congress of the estimates of the Pay Department, which failed to take into consideration various contingencies, and the enactment of extraordinary legislation increasing temporarily the demands upon the pay appropriation without making adequate provision therefor, left the Paymaster-General without sufficient funds to meet the Army pay roll for the last month of the year.

The situation threatened much hardship among officers and men, who usually rely upon their monthly salaries to pay current expenses. It was averted, however, by an unofficial arrangement under which the necessary amount was advanced to meet these accounts in full, and the assignments of the same are held by the National City Bank, New York, the Secretary of War having assumed the personal responsibility of guaranteeing their payment. A deficiency appropriation of \$24,000, or so much as may be necessary to extinguish the debt, is recommended.

BATTALION FORMATION.

By far the most essential need of our Army to-day is the adoption of the three-battalion formation. The reasons for this change and a way to provide it were stated in the report of the Department for 1894, which I here repeat in substance:

I earnestly recommend that Congress enact the legislation necessary to establish in the Army the battalion formation now adopted

by the armies of every other civilized nation. As necessary to effect that change I recommend the removal of the limit of 25,000 men fixed by the act of June 18, 1874, and a return to the limit fixed by the act of July 15, 1870. Legislative approval of these two propositions will restore to the effective force about 4,000 enlisted men, bringing the actual strength of the Army up to the nominal strength now fixed by law. By these changes the Army will be increased in efficiency 20 per cent, in numbers about 16½ per cent, and in cost of maintenance only about 6 per cent.

In brief, it is proposed that two companies be added to each of the twenty-five infantry regiments, so that each shall consist of three battalions of four companies, and that two foot batteries be added to each of the five artillery regiments. No increase in the cavalry is proposed.

The organization of the line of the Army has undergone no material change since the close of the civil war. During this period of thirty years every large foreign army has been completely reorganized. Changes and improvements in arms, ammunition, and equipments have forced upon the leading strategists and tacticians of the great armies of the world the necessity of a broad departure from the old systems. All have adopted the battalion as the tactical unit for infantry and artillery serving as infantry, and nearly all the equivalent of the squadron as the cavalry unit. The light artillery battalion has a similar composition. Should our Army ever be brought into collision with disciplined foreign troops, our present formation would prove so defective as to probably turn the scale against us in a conflict on terms otherwise equal.

For some years the Secretaries of War, the generals commanding the Army, and the most eminent authorities in military science in this country have urged the adoption of the battalion formation, and our most progressive and best informed officers believe that the organization of our small Army should embody this universally approved result of modern military thought.

Four companies are as large a body as it is now possible for one officer to lead and control in action. Formerly and down to a recent date, the colonel could see and direct the movements of all the men of his regiment, who marched and fought in double rank with touch of elbows. Under such conditions a regiment of 1,000 men occupied a front on the battle line no greater than would now be covered by a small battalion of one-third that number. A few years ago small-arms

fire was ineffective at distances greater than 600 or 800 yards, while now it will be deadly at ranges of 2,000 yards, or at even greater distances. In modern warfare the men will act in small groups or singly, and the advance will be made in successive lines in open order. Perfect organization and perfect control by the commander of each unit will be absolutely essential to efficiency and success in the field.

The National Guard of several of the States, more progressive than the General Government, already has the battalion organization, and our own Army is being instructed as thoroughly as our defective system will permit, battalions of from two to five companies being improvised in the different garrisons.

By restoring to the military establishment the strength allowed up to 1874, and providing for the battalion formation, with a few minor changes, the organization of the Army will be:

Cavalry: Ten regiments of 3 squadrons each; 1 colonel, 1 lieutenant-colonel, 2 extra captains for adjutant and quartermaster, 5 noncommissioned staff; each squadron, 1 major or lieutenant-colonel, and 4 troops; each troop, 1 captain, 2 lieutenants, and 50 enlisted men.

Artillery: Five regiments of 3 foot battalions and 1 field artillery battalion each; 1 colonel, 1 lieutenant-colonel, 2 extra captains for adjutant and quartermaster, and 5 noncommissioned staff; each foot battalion, 1 major or lieutenant-colonel and 4 batteries; the field artillery battalion, 1 major and 2 field batteries; each foot battery, 1 captain, 2 lieutenants, and 65 enlisted men; each field battery, 1 captain, 3 lieutenants, and 75 enlisted men.

Infantry: Twenty-five regiments of 3 battalions each; 1 colonel, 1 lieutenant-colonel, 2 extra captains for adjutant and quartermaster, 5 noncommissioned staff; each battalion, 1 major or lieutenant-colonel and 4 companies; each company, 1 captain, 2 lieutenants, and 55 enlisted men.

The distribution of officers and men would then be about as follows:

	Col-onels.	Lieu-tenant-col-onels.	Majors.	Cap-tains.	Lieu-tenants.	Troops, bat-teries, or com-panies.	Total officers pro-posed.	Officers now allowed each arm.	Enlisted men pro-posed.
Cavalry	10	10	20	140	240	120	420	430	6,050
Artillery	5	5	15	80	150	70	255	280	4,675
Infantry	25	25	50	350	600	300	1,050	875	16,625
Total	40	40	85	570	990	490	1,725	1,585	27,350
Now authorized	40	40	70	430	1,005	430	.....	1,585	23,759
Increase .....	.....	.....	15	140	.....	60	.....	.....	3,591
Decrease .....	.....	.....	.....	.....	15	.....	.....	.....	.....

The battalion of engineers would remain as now with 4 companies of 500 men, making an aggregate of 27,850 of all arms, and a sufficient number remaining for the hospital corps, noncommissioned staff, ordnance detachment, Indian scouts, and other unattached men, to make a total of 30,000. When deductions are made for the sick, absentees, etc., the effective strength of the Army would be about 25,000 soldiers and 40 field guns.

The formation desired admits of rapid and great expansion to meet the exigencies of actual warfare, and is especially adaptable to the small force constituting the peace establishment of the United States. Twelve years ago, before retiring from command, General Sherman pointed out the great advantage of such an organization as enabling us to put a large and effective force in the field upon short notice, by merely enlisting a sufficient number of additional private soldiers, the regiment being always ready for this expansion.

Resolving the effect of these changes into money it appears that for pay, rations, and clothing of the increased number of enlisted men proposed an increase of \$1,200,000 in annual appropriations will be required. Retrenchment in the administrative branches of the War Department has considerably reduced expenditures, and the estimates contemplate further retrenchment. These economies in the administration of the War Department may properly be turned to the benefit of the Army, and so regarded, the proposed increase in numbers and the higher efficiency in organization of the enlisted men may be obtained at a comparatively small increase over sums hitherto appropriated annually for support of the regular force.

The proposition outlined contemplates an increase in the number of line officers, involving an increase for salaries of about \$200,000. This increase of expenditures should be met and more than overcome by reductions in the expenditures for the staff.

ARMY REGULATIONS.

A new edition of the Army Regulations has recently been published and distributed. It replaces the last compilation of this nature which appeared in 1889. The systems of drill for the three arms of the service are now being revised.

STAFF REORGANIZATION.

The officers of the Army are distributed by the existing laws to the staff and line as follows:

	Major-generals	Brigadier-generals.	Colonels.	Lieutenant-colonels.	Majors	Captains.	First lieutenants.	Second lieutenants.	Additional second lieutenants.	Total.
Of the staff—										
Adjutant-General's Department.....	1	4	6	4						15
Inspector-General's Department.....	1	2	3	2						7
Judge-Advocate-General's Department.....	1	1	3	3						8
Quartermaster's Department.....	1	4	6	14	30					57
Subsistence Department.....	1	2	3	8	8					23
Medical Department.....	1	6	10	50	74	36				177
Pay Department.....	1	2	3	20						26
Corps of Engineers.....	1	6	12	24	30	26	10	4		113
Ordnance Department.....	1	3	4	10	23	13				54
Signal Corps.....	1				1	5	3			10
Record and Pension Office.....		1								1
Post and regimental chaplains.....					30					30
Total staff.....	10	31	51	136	202	78	10	4		520
Total line.....		40	40	70	434	570	435	3		1,592
General officers.....	3	6								9

From this it appears that about one-fourth of all the officers are permanently assigned to staff duties. Of the entire amount, \$5,069,000, appropriated for the current fiscal year for pay of officers, nearly one-third, \$1,610,000, was required for the salaries of the staff. It must be conceded that the ratio of staff to line in our military establishment is decidedly out of proper proportion, and that attention may well be directed to some adjustment which will in effect increase efficiency and at the same time permit the transfer of a fund of no small amount to purposes tending to promote the welfare of the whole service.

Some of the staff departments have active and arduous employment of a strictly technical nature for all their officers, but in others the number employed is beyond any present or probable necessity, and in many instances their military rank is quite inconsistent with the purely business functions they perform. The correct administration of this latter class of departments demands radical reductions and consolidations, some of which were outlined in my last report and others it would not be difficult to suggest.

The present chiefs of bureaus in the staff organization of the Army are capable and efficient men. They are in every way worthy of the

responsible places they occupy and zealous in the faithful performance of duty. The wisdom, however, of continuing the present system of selection may well be questioned.

Following the close of the last war, and up to the present time, in the assignments to staff places successful service in the active operations of that trying period has largely governed, and the seniority method in promotion has operated comparatively well, by reason of the fact that the older officers eligible under the prevailing custom had benefited from such experience. This has not only brought to the several offices in question a complement of trained and able men, but it also provided a way for recognizing faithful and distinguished service in the field.

Thirty years having elapsed since the close of the war, it is fair to assume that these conditions can not much longer continue, and the time, therefore, is deemed opportune for the consideration of new methods. The vast importance to the public service of securing in these places in the future, regardless of other considerations, the officers best fitted by natural talents and attainments, as evidenced by their present performance of duty, can not be denied, and the knowledge that such distinction was open to merit could not fail to excite an ambition and effort that would increase incalculably the efficiency of the whole service.

The present statutes provide, with a single exception, that the chief of each staff department shall be selected from the officers of his department, and the appointment, once made and confirmed by the Senate, gives absolute independent tenure of office to the incumbent until his forced retirement from military service by the age limit. This requirement of law that the chief of the staff corps shall be selected from his corps compels a selection from a very limited number of officers—in one case from a group of six.

There is nothing in the nature of the duties of some of the staff corps that should forbid the presumption that competent officers could be found for those duties in the line or in other branches of the staff. In the case of the Engineer, Ordnance, and Medical departments, whose duties are largely technical, no change from existing method of filling vacancies in the grade of brigadier-general is suggested, but in respect to all other staff corps and departments the class eligible for selection to the head of each should embrace the whole Army, line and staff.

The head of each staff corps should, in my judgment, be selected for a term of years, at the expiration of his term the officer to resume duty in his commissioned grade, unless reappointed.

The argument usually advanced in opposition to a reorganization is the fact that the existing arrangement as respects subdivision of staff duties accords with the staff organization of the war period.

This objection to change may be disposed of by the statement that the efficient armies of the world have little resemblance, as respects organization, to those maintained thirty years ago. Arms, equipments, systems of evolution, and method of supply, have all been radically changed so as to make them conform to the new conditions of armament and the requirements of modern times. The general tendency is the concentration of administrative responsibility in a few bureaus, and an organization in each branch so compact, thorough, and complete that the duties and responsibilities of each subordinate will be clearly defined.

The act approved October 1, 1890, to provide for the examination of certain officers of the Army and to regulate promotions, has proved to be a great stimulus to the younger officers to pursue a comprehensive course of reading and study calculated to fit them for the higher and more important grades. As no examination is required on promotion to the grades of lieutenant-colonel and colonel, except in the Ordnance and Engineer Corps, there is not the incentive to the field officer to keep him abreast of the times that now urges on the younger officer to acquire complete knowledge of every phase of and improvement in his profession. The field officer, by reason of his higher rank and the greater importance of his duties, should possess a much greater fund of information touching his profession than the subordinate officer whom he commands, but a considerable number of officers of this grade have undergone no professional or physical examination since they entered the service. To stimulate the acquirement of such knowledge it is recommended that the provisions of the act above cited be extended so as to provide for the examination of all officers of the line and staff of the Army below the grade of colonel prior to promotion.

WAR RECORDS.

The total cost of the publication of the Official Records of the Rebellion from 1874, when the work was begun, to the close of the last fiscal year, was \$2,158,073.20, of which \$1,045,952.39 was for printing, and the balance for the expense of compilation. The actual product by this expenditure is 11,500 sets of the 96 books in print and the accom-

panying maps and plates, also a large mass of uncompleted work in connection with the books yet to be printed.

The volume of the official records in the possession of the Government and those donated or loaned by individuals furnish an enormous amount of material available for compilation and publication. The expectations of the Department that by this time the publication of these valuable and elaborate records would be completed has not been realized. It appears that the members of the expert board of publication established by the act of March 2, 1889, have not, as respects certain of the records, reached the same conclusion as to what should be excluded as unimportant. The law now provides that the selection of matter for publication shall be made by the board of experts under the direction of the Secretary of War, and all in accordance with a plan or project that has received the approval of Congress; but as the quantity to be included or excluded, according to the personal determination of some of the experts, is very voluminous, I recommend that Congress be requested to define the scope of the work as respects the matter not yet printed.

CONCENTRATION OF TROOPS.

The policy of concentrating the Army and abandoning unnecessary posts has not only won the approval of all those acquainted with the lines of progress which conditions have marked out for our Army, but is approved by all thoughtful citizens. It has been shown that sufficient bodies of troops can be transported for service to any necessary point in shorter time and at less cost than under the old system, that the area under effective military protection is consequently much larger, and that all elements of expense have been perceptibly reduced.

This policy has also rendered it possible for this Department since March 4, 1893, to turn over to the Department of the Interior 741,000 acres of public land, conveniently situated, for the use of actual settlers. At the present time there are eighteen posts whose garrisons exceed a full regiment, while thirty stations are garrisoned by less than a battalion. This policy, with everything to commend it, should be steadily pursued.

Agreeably to the act of Congress the Department has accepted from the citizens of Spokane, State of Washington, a tract of land embracing 1,022 acres for military purposes. Eventually this should be availed of by the erection of barracks and quarters to take the place of some of the posts in that vicinity which, under the conditions following the development of the country, are not well located for present needs.

While our Army remains at its present numbers, and with the facilities for the quick dispatch of troops to points where required, the appeals of localities for the establishment of posts in their vicinity can have no substantial basis.

To respond to such appeals will be to provide quarters far in excess of our needs or our ability to supply them with garrisons.

The distribution of the Army by geographical departments on October 31, 1895, was as follows:

Departments.	Officers.	Enlisted men.	Total.
California	111	1,403	1,514
Colorado.....	261	3,299	3,560
Columbia.....	133	1,569	1,702
Dakota	197	2,427	2,624
East.....	525	6,795	7,320
Missouri	307	4,154	4,461
Platte	204	2,549	2,753
Texas	142	1,795	1,937
Total.....	1,880	23,991	25,871

THE MILITARY ACADEMY AND SERVICE SCHOOLS.

The superintendent of the Military Academy at West Point reports that the number of cadets on September 1, 1895, including one foreigner admitted by special authority of Congress, was 324, being 48 less than the full number authorized by law. Notwithstanding the desire of large numbers of the youth of the country to enter this institution, there are every year many unfilled vacancies, mainly because of failure on the part of Representatives in Congress to make nominations and the restrictive laws concerning appointments.

It is highly desirable to keep this expensive plant in operation to its full capacity, and various methods to increase the number have been suggested. I renew the recommendation of my last report, that the President be authorized to name ten cadets at large each year.

One of the most pressing needs of the Academy is a new library building, which can be constructed for \$70,000, including incidental expenses, estimated pursuant to act of Congress. This venerable institution, in which the country takes justifiable pride, is undergoing a necessary period of material renovation, and an amount somewhat in excess of the usual appropriations is now required for that purpose.

The service schools at Fort Monroe, Fort Leavenworth, and Fort Riley continue the high grade of instruction for which they have been

commended in previous reports. A general desire throughout the service for the opportunities afforded by these schools is evidence of an ambition in the Army to excel in military knowledge, as well as in daily routine.

STATE TROOPS.

The efforts of recent years to bring the Army into closer relations with the National Guard of the States may now be regarded as having established a permanent union between the two forces, advantageous to both. During the year 33 officers, 6 more than in the previous year, were permanently detailed at State headquarters, and 43 States secured for temporary duty the services of army officers. State encampments of troops were held by 22 States, to which 25 additional officers were assigned as instructors and inspectors.

The conditions are favorable to the development of a volunteer force of upward of 100,000 men, of the highest efficiency and prepared for any service. Legislation, however, is necessary to put to the best use the relations which have been established between the Army and the troops of the States. The laws of the United States relating to the militia were enacted in 1792, and need thorough revision and renovation to bring them into accord with present requirements.

The variety of weapons which now obtains is so great as to preclude the employment of considerable bodies of the militia of different States in cooperation, and the longer the Federal Government delays action the greater the possibility that different States will select different models of rifles, requiring different forms of ammunition, thus rendering almost impossible the employment in joint action of the troops of the different States. The Springfield .45-caliber rifle appears to be the best available weapon adapted to the use of the State troops, and authority from Congress alone is necessary to enable the Department fully to equip within the year the militia of the country with this uniform arm. In the event of war the new magazine rifle could be issued to these troops, and a fortnight would be ample to secure proficiency in the use of the arm.

The appropriation for the National Guard has remained unchanged for many years, although the country's population has multiplied many fold. Repeated recommendations for an increase of this appropriation have not met with a favorable response from Congress, though the reasons for such increase seem obvious. The States now hold many unserviceable, worn-out, or obsolete stores and weapons advanced to them by the War Department in past years. Authority is asked to

grant credit to the States for the return of such useless material, to be sold by the Federal Government for what it will bring, and the proceeds applied to the arming of the militia with uniform, serviceable weapons. It is now suggested that authority be granted to the Department to sell to the States, at cost price, such arms and equipments as they may require, and that the proceeds of such sales be credited to the appropriations for supplying and replacing such arms and equipments.

These propositions involve no increase in the appropriations for the Department, but the bestowal of the authority asked for is necessary to the success of any plan looking toward the joint action of the Army and the National Guard of the States in case of war.

Community of interests, mutual respect, and familiarity with each other's methods have been established between the Army and the State troops in peace, but unity of action on the field requires uniform armament and equipment.

The following table shows the number of officers and men comprising the National Guard of the States and Territories and allotment to each State and Territory of the annual appropriation by the General Government and the appropriations made by each State and Territory. The artillery arm, comprising 5,151 officers and men, is maintained by 33 States, and the cavalry arm, comprising 5,249 officers and men, is maintained by 25 States:

States and Territories.	Number of men.	Federal allotment.	State appropriation.
Alabama	3, 047	\$9, 489	\$15, 000
Alaska			None.
Arkansas	974	6, 901	None.
Arizona	530	2, 000	4, 710
California	4, 146	7, 764	180, 000
Colorado	785	3, 450	30, 645
Connecticut	2, 740	5, 176	(*)
Delaware	427	2, 588	3, 000
District of Columbia	1, 463	8, 000	26, 500
Florida	1, 088	3, 450	8, 000
Georgia	4, 411	11, 214	15, 000
Idaho	535	2, 587	355
Illinois	5, 880	20, 703	272, 500
Indiana	3, 026	12, 939	45, 000
Iowa		11, 214	45, 000
Kansas	1, 815	8, 626	31, 000
Kentucky	1, 469	11, 214	10, 000
Louisiana	1, 698	6, 901	None.

* No fixed amount.

instances after leaving school enter the National Guard as officers, and thus contribute to the morale and discipline of our citizen soldiers.

I renew my recommendation that the law be so amended as to extend the opportunities for military instruction by officers of the Army to high schools of cities and normal schools of States having a requisite number of pupils.

SEACOAST DEFENSES.

In your annual message transmitted to Congress in December, 1886, attention was directed to the urgent necessity for seacoast defense in these words: "The defenseless condition of our seacoast and lake frontier is perfectly palpable; the examinations made must convince us all that certain of our cities should be fortified and that work on the most important of these fortifications should be commenced at once. The absolute necessity, judged by all standards of prudence and foresight, of our preparation for an effectual resistance against the armored ships and steel guns and mortars of modern construction which may threaten the cities on our coasts is so apparent that I hope effective steps will be taken in that direction immediately."

Since that time the condition of these defenses has been under grave consideration by the people and by this Department. Its inadequacy and impotency have been so evident that the intelligence of the country long since ceased to discuss that humiliating phase of the subject, but has addressed itself to the more practical undertaking of urging more rapid progress in the execution of the plan of defense devised by the Endicott Board in 1886, with subsequent slight modifications.

That plan contemplated a system of fortifications at 27 ports (to which Puget Sound was subsequently added), requiring 677 guns and 824 mortars of modern construction, at a cost of \$97,782,800, excluding \$28,595,000 for floating batteries. By an immediate appropriation at that time of \$21,500,000 and an annual appropriation of \$9,000,000 thereafter, as then recommended, the system of land defenses could have been completed in 1895.

The original plan contemplated an expenditure of \$97,782,800 by the end of the present year. The actual expenditures and appropriations for armament and emplacements have, however, been but \$10,631,000. The first appropriation for guns was made only seven years ago and the first appropriation for emplacements was made only five years ago. The average annual appropriations for these two objects has been less

than \$1,500,000. The work has therefore been conducted at about one-seventh the rate proposed.

If future appropriations for the manufacture of guns, mortars, and carriages be no larger than the average authorized for the purpose since 1888, it will require twenty-two years more to supply the armament of the eighteen important ports for which complete projects are approved.

If the appropriations for the engineer work are to continue at the rate of the annual appropriations since 1890, it will require seventy years to complete the emplacements and platforms for this armament for the ports referred to.

Thus the various factors in the scheme of defense have now been so accurately determined that for the first time it is possible to forecast from what has been accomplished the time and expense required to complete the project with existing facilities. We have established and equipped a gun factory able to turn out yearly 35 guns of the types required, or enough to arm the 18 ports enumerated within ten years. It is complete except as to the provisions for finishing and assembling 16-inch guns, the expediency of which is still questioned. We have, moreover, by contract contributed toward the establishment of a private plant for the manufacture of guns, which in time will be able to meet any unusual demand that could not be supplied by the Watervliet gun factory.

We have established a plant for the manufacture of gun carriages which, with the aid of private establishments, can supply the carriages required as rapidly as emplacements for guns and mortars are completed. The development of a satisfactory type of 12-inch disappearing gun carriage is alone lacking in the mechanism of coast defense, and without doubt American ingenuity will soon supply that desired feature.

But at only three of the eighteen ports under consideration have completed features of defense been established. New York has two 12-inch guns and sixteen 12-inch mortars, San Francisco has one 12-inch gun and sixteen 12-inch mortars, and Boston has sixteen 12-inch mortars in position.

Besides the three 12-inch guns in position, there were finished and ready for mounting on July 1, 1895, eleven 12-inch, thirty-three 10-inch, and fifty-one 8-inch guns. By next July fifteen 12-inch, twelve 10-inch, and twelve 8-inch guns will be added, making a total of 134 guns ready

to be mounted. The gun carriages now completed or building for these guns comprise ten 12-inch carriages, thirty-five 10-inch carriages, and fourteen 8-inch carriages; in all, 59 carriages for 134 guns. Eighty mortars are completed, of which 48 are mounted at New York, San Francisco, and Boston; 6 more are building and 38 additional mortar carriages are built or building, so that the supply of mortars can be mounted as soon as emplacements are prepared.

Turning to the engineering phases of seacoast defense, there are completed 10 emplacements for guns and 64 emplacements for mortars, on which 3 guns and 48 mortars are already mounted. Six guns and 16 mortars are soon to be mounted on the remaining emplacements. Besides these there are 32 gun emplacements under construction, of which it is possible that 14 may be completed by the close of the current fiscal year with money now available.

Thus partial provision has been made for 42 gun emplacements out of 448 needed for the approved projects, and for 64 mortar emplacements out of 952 required.

By about July next the condition of the completed components of our new defenses will be as follows:

Guns.			Carriages.			Emplacements.			Mor- tars.	Carri- ages.	Em- place- ments.
12-inch.	10-inch.	8-inch.	12-inch.	10-inch.	8-inch.	12-inch.	10-inch.	8-inch.	12-inch.	12-inch.	12-inch.
29	45	63	10	31	14	3	16	5	86	86	64

For guns and mortars completed or building Congress has appropriated \$7,110,000, and for emplacements completed or building Congress has appropriated \$3,521,000, in all, \$10,631,000. Beyond this sum it has contracted to pay the Bethlehem Iron Works \$3,521,000 for 100 guns to be delivered before 1903.

The disparity in the rates at which the different branches of fortification, as illustrated in the table above, is proceeding furnishes a valid reason for uniform appropriations and the creation of a board of central control, proposed in later pages.

The finished and partly finished work of the project has been set forth. To complete the armament for the 18 ports named will require \$36,342,935, exclusive of the balance due to the Bethlehem Iron Works of about \$3,500,000 and \$238,000 which may be required for rapid-fire guns in certain fortifications.

For emplacements for guns and mortars finished or building \$3,521,000 has been appropriated, and appropriations of \$41,688,093 will be required to complete this work at the 18 ports, excluding mining casemates, and fortifications at Portland, Me., the estimates for which are not yet completed. The details from which these conclusions are drawn are herein shown in the form of tables, which for the first time present an adequate statement of what has been done and what remains to be done to fortify our seacoasts.

Fortifications.

Port.	Gun emplacements with platforms.			Mortar emplacements with platforms.			Cost.		Mining casemates.		
	Projected.	Built.	Building.	Cost to date.	Projected.	Built.	Building.	Cost to date.	Projected.	Built.	Building.
Portland, Me.	38	3 10-inch.		\$120,000.00	48			(†)	4	3	
Boston.	43	4 10-inch.		284,706.96	123	16		\$4,877,882	4	3	1
Narragansett Bay	20				80			2,742,072	2	2	
New York	83	2 12-inch.									
		2 10-inch.									
		1 8-inch.		1,054,232.60	170	32		460,944.06			
Philadelphia.	16	3 12-inch.		210,000.00	18						
Baltimore.	10				32			1,071,397	3	3	
Washington.	13	2 10-inch.		137,976.00	8			1,721,448	1	1	
Hampton Roads	24	3 10-inch.		252,160.00	32	16		1,035,000	2	1	
Wilmington	6				8			1,821,662	3	1	
Charleston	10	3 12-inch.		75,500.00	18			809,892	1		
Savannah	6				16			1,506,870	1	1	
Key West.	8				32			850,000	2	1	
Pensacola.	8	2 10-inch.		100,000.00	16			1,163,426			
Mobile.	8	1 8-inch.		50,000.00	24			825,000	1	1	
Galveston	9				32			1,263,387	1		
		5 12-inch.						1,080,000	1		
		3 10-inch.		301,912.79	144	16					
San Francisco.	63	1 12-inch.						9,105,391	6	4	
Month of Columbia River	17				48			1,852,092	3		
Puget Sound.	31				96			2,431,735	3		
New Orleans.		1 10-inch.		70,000.00							
Total	448	10	32	2,726,498.35	952	64	16	45,105,325	43	25	3

* Masonry and earth works alone and excluding mining casemates.

† Not yet submitted.

; Lift.

477,899.62

94,344.62

7,500.00

7,673.52

27,244.91

13,100.00

9,000.00

28,452.00

15,764.85

2,895.07

65,525.69

171,938.04

REPORT OF THE SECRETARY OF WAR.

Port.	Guns.				Mortars.		Carriages.		Total cost of armament for enumerated ports.	
	16-inch.	12-inch.	10-inch.	8-inch.	12-inch.	Cost.	Guns.			
							Carriages.	Cost.		
Portland, Me.....	.....	18	10	10	48	\$648,000	38	\$546,000	\$336,000	\$2,882,164
Boston	6	17	15	5	128	1,728,000	43	756,000	886,000	5,457,036
Narragansett Bay.....	.....	10	6	4	80	1,080,000	20	292,000	560,000	2,661,700
New York.....	14	55	15	9	176	2,376,000	93	3,290,000	1,232,000	11,854,622
Philadelphia .....	.....	8	6	2	16	216,000	16	191,000	112,000	1,120,858
Baltimore .....	.....	6	.....	4	38	432,000	10	135,000	224,000	1,145,590
Washington.....	.....	4	6	3	2	108,000	13	193,000	56,000	775,764
Hampton Roads.....	4	10	10	.....	32	432,000	24	462,000	224,000	2,386,860
Wilmington.....	.....	2	.....	4	8	108,000	6	77,000	56,000	399,778
Charleston .....	.....	6	4	.....	16	216,000	10	153,000	112,000	894,250
Savannah .....	.....	2	.....	4	16	216,000	6	77,000	112,000	563,778
Key West.....	.....	2	4	2	32	432,000	8	119,000	224,000	1,022,874
Pensacola .....	.....	2	6	.....	16	216,000	8	128,000	112,000	733,204
Mobile .....	.....	4	.....	4	24	324,000	8	106,000	168,000	854,684
Galveston .....	.....	.....	9	.....	32	432,000	9	148,500	224,000	1,073,447
San Francisco.....	8	33	28	19	144	1,944,000	88	1,190,500	1,008,000	7,830,815
Mouth of Columbia River.....	.....	2	11	4	48	648,000	17	228,500	336,000	1,699,991
Puget Sound .....	.....	5	18	8	96	1,296,000	31	407,500	672,000	3,299,903
Total	32	186	148	82	952	12,852,000	448	8,501,500	6,664,000	46,457,308

It rests with Congress to determine by its appropriations the period which shall elapse before our coasts shall be put in a satisfactory condition of defense. The amount required for the 18 ports is about \$82,000,000, and the entire work can be completed within ten years. The rate of progress will be slower in proportion as appropriations are kept below the amount which can be advantageously expended.

We have established gun factories capable of assembling and finishing the number of guns and mortars required, with the 100 already contracted for with the Bethlehem Company, and to make the necessary carriages. We have the foundries to produce the large forgings needed within the required time. To establish these government and private plants was a great and necessarily slow undertaking; to operate them at their full capacity is business prudence and economy. It will give value to the investments we have already made; for the fortifications we have now obtained, until brought much nearer to completion, would be of slight dependence in the event of actual war.

In the last report of the Department it was stated that annual appropriations of \$4,250,000 would complete in twelve years the building of the guns, mortars, and carriages required. That appropriation was reduced by Congress. The estimates recommended by the Department this year call for \$4,475,155. The appropriations for emplacements, sites for fortifications, casemates, submarine mines and galleries, amounting to \$1,350,000, were asked for last year, but barely half that amount was granted. Appropriations of \$2,135,000 for these purposes are recommended this year on the estimates of the Chief of Engineers, but it will evidently require an annual expenditure of about \$4,200,000 for ten years to complete the masonry and earthworks of our approved projects of seacoast defense.

Whatever course may be taken with reference to the completion of the entire scheme, immediate provision should be made for carriages and emplacements for guns already manufactured.

The distribution of duty and responsibility under existing laws whereby authority to formulate plans and execute operations is lodged with separate and distinct bureaus as well as in a board established by statute, all without any harmonizing or central supervision, is in my judgment a mistake that should be speedily corrected.

To that end I recommend the appointment of a board of officers of the Army, to be selected by the President without restriction as to rank or corps and without extra pay or emolument, subject to confirmation by the Senate, if that be deemed wise, who should be relieved of all other

service and charged solely with the task of directing and supervising the work in its entirety.

Satisfactory types of guns, mortars, and carriages having been devised and adopted, sound business sense requires that the operation of construction should be freed as much as possible from the delays necessarily incident to the division of a work among a number of military bureaus otherwise burdened with a variety of distracting affairs of large magnitude.

ARSENALS AND FACTORIES.

At the Springfield Arsenal 14,491 of the new magazine rifles were manufactured during the year, and the entire infantry, foot artillery, and engineer force has been supplied with the new arms. A few minor changes in the weapon, suggested by practical experience, have been made. About 30,000 rifles will be completed this year, and ample provision should be made for a further reserve supply. The cavalry will soon be supplied with the new carbine.

The development of smokeless powders for small arms in this country gives the assurance that American manufacturers can supply any amount required.

At the Watervliet Gun Factory thirty-five 12-inch, 10-inch, and 8-inch seacoast guns and seven 12-inch mortars were finished; forty-seven 3.2-inch and 3.6-inch field guns were finished, and a large amount of miscellaneous work was turned out. The gun factory is capable of producing in ten years the armament required by the present projects. In its gun factory at Watervliet the Government has an establishment unequaled by any army gun factory abroad in the excellence of the results it has produced.

The gun-carriage shop at the Watertown Arsenal is nearly completed, and twenty carriages for seacoast guns were finished during the year. It is hoped, under favorable facilities, that the annual output may be increased to thirty carriages of various types.

BROWN POWDERS FOR SEACOAST GUNS.

Progress may be reported in the manufacture of brown powders for seacoast guns, and the ballistic tests prescribed have been excelled in samples tested. These improvements have enabled the Department to raise the requirements for powders for high-powered guns. A satisfactory powder for the 12-inch mortars has been produced. The tests will be continued uninterruptedly until powders have

been invented equal to the high standard of our guns. The progress made since 1893 warrants the hope that the period of further investigation will not be long.

DYNAMITE GUNS.

The total number of dynamite guns now contemplated for the coast defenses is six. Of this number three have been erected at Fort Hancock, New Jersey—two of 15-inch and one of 8-inch caliber. Three more dynamite guns, all of 15-inch caliber, are to be erected in connection with the defenses of San Francisco. One gun is nearly finished, and will soon undergo trial. On account of unexpected delays it has been found necessary to extend the time for the full completion of the contract to December 27, 1895.

FORT LEAVENWORTH MILITARY PRISON.

The military prison at Fort Leavenworth was discontinued at the close of the last fiscal year, the prison buildings and grounds transferred to the Department of Justice, together with the control of such of the military convicts as at the date of transfer were held in confinement for offenses amounting to felonies at common law.

The offenders against military law, who have heretofore been confined at the Leavenworth prison, are now retained at the larger posts, where facilities for their safe keeping exist. These men are employed at hard labor of a useful character, and spare other and meritorious soldiers from irksome duty.

RIVERS AND HARBORS.

The report of the Chief of Engineers, forwarded herewith, exhibits in detail the condition of the various river and harbor improvements ordered by Congress. The total expenditures for these purposes during the year ended June 30 last, exclusive of those made by Mississippi and Missouri River Commissions, were \$15,440,994.97 and the unexpended balance of available appropriations on the 1st day of September last was \$12,686,880.59.

The policy some time ago adopted by Congress in respect to certain of the more important river and harbor improvements for which fixed projects have been adopted, whereby the Department was enabled to enter into continuous contracts for the completion of the work, results in much economy of money, and, what is more important, secures to the country early and appreciable benefits from the expenditures.

In the main the objects for which such provision has been made are those which so eminently promote the enlargement of our commerce as to commend themselves to liberal consideration, and the extension of that policy to embrace other worthy improvements is earnestly commended.

The experience at Galveston, where the work has been vigorously prosecuted under a continuous contract, approved four years ago, is notable, the water on the outer bar of that harbor having been increased from 12 to 20 feet for a channel 400 feet wide, and a consequent gratifying enlargement of the commerce of the port is already reported.

To meet the requirements of the statutes the local engineers have prepared statements which accompany the estimate of the Department showing the amounts that in their judgment can be profitably expended during the next fiscal year on the various rivers and harbors for which projects of improvement have been approved by Congress and for which appropriations have heretofore been made in the river and harbor appropriation bills. These estimates call for appropriations aggregating \$48,837,027, excluding those for the Mississippi and Missouri rivers, but I am convinced that a much smaller amount, distributed with discrimination for improvements of undoubted utility and public benefit, will accomplish all that a wise and liberal public policy now demands.

MISSISSIPPI RIVER.

The river and harbor act of 1894 provided for continuous improvement of the Mississippi River with an annual expenditure of \$2,665,000 for three years beginning July 1, 1893. All the money for these contracts has now been appropriated, the period fixed has expired, and the contracts will terminate with this fiscal year. It is therefore suggested that the time is opportune for inquiry concerning the practical results of the large expenditures on this river, the importance of the improvement of which is not to be underestimated.

The total amount appropriated since June 28, 1879, when the Mississippi River Commission was established, is \$29,558,699.20. The several acts of Congress carrying these appropriations have varied as to direction and restriction, at times prohibiting the diversion of moneys to the construction and repair of levees for the protection of adjacent lands against overflow and in other instances positively requiring it.

The expenditures have been as follows:

Levee construction and repair.....	\$9, 104, 879. 92
Channel improvements especially designed to aid navigation.....	8, 390, 817. 54
Harbor improvements to protect fronts of cities.....	3, 782, 222. 95
Surveys, gauges, and observations.....	1, 367, 665. 83
Purchase and maintenance of plant.....	1, 259, 188. 88
Expenses of Mississippi River Commission.....	368, 318. 40
Improving Atchafalaya and Red rivers.....	865, 711. 28
Outstanding liabilities and contracts.....	1, 073, 676. 79
Total.....	26, 212, 481. 59
Balance.....	2, 617, 185. 08

It will thus be observed that of the aggregate but little more than one-third of the moneys expended has been directly applied to the actual work of deepening the channel. In practice this work has been mainly confined to two reaches of the river, each 20 miles long—one situated about 80 miles above Memphis and the other 80 miles above Vicksburg—where the result has been an increased depth of water at low stage of approximately 18 inches.

This Department is not to be understood as questioning the propriety of the expenditures for levees necessary for the protection from devastating overflows of a large section of country of great fertility and a production which adds vastly to our national wealth, but it is proper to direct attention to the finding of the engineers that the navigation interests of the river as such have thus far received little practical benefit from these works.

In view of this situation, and the fact that on the 1st day of July last there was still remaining an available balance of \$2,617,185.08 the estimates of the Commission for the coming year are forwarded without recommendation, pending further direction from Congress.

MISSOURI RIVER.

The expenditures for continuing the improvement of the Missouri River during the year were \$706,523.80, and the balance available for the present year was on the 1st day of July, 1895, \$990,671.22. The reasons which governed the Department in refraining from specific recommendations in the case of the work of the Mississippi River Commission apply with equal force to that for the Missouri River. The continuing contracts which were authorized by Congress expire with the present appropriations, and the further instructions of Congress should now be had.

The present scheme of improvement involves the expenditure of a large amount of money, and the completion of the work so that practical benefits can accrue for any considerable extent of river will require many years of time. The total amount appropriated for the improvement of the Missouri is \$8,896,000, a sum quite disproportionate to its present or prospective commerce. With the modern means of quick transportation furnishing sharp competition, and the presence in our statutes of easily applied remedies against combination or extortion, it may be questioned if the familiar argument in favor of these costly improvements for the purpose of regulating the rates of freight charges still obtains in a degree sufficient to at this time justify large expenditures in further attempts to provide and maintain a navigable channel over a long stretch of a shallow and shifting river, in the face of constant natural obstacles, and where practically no commerce has existed for many years.

THE CHICAGO DRAINAGE CANAL.

The completion of the drainage canal of the sanitary district of Chicago, which is expected in the near future, and its probable effect upon the depth of water in the lake harbors having caused much apprehension, the importance of the matter led to its reference to a board of engineer officers for investigation as to "the probable effect of the operation of the Chicago Drainage Canal upon the lake and harbor levels, and upon the navigation of the Great Lakes and their connecting waterways."

As full consideration was given to the subject as the available data permitted, and the board in its report rendered in August stated as its conclusion that—

The abstraction of 10,000 cubic feet of water per second from Lake Michigan will lower the level of all the lakes of the system except Lake Superior, and reduce the navigable capacities of all harbors and shallows throughout the system to an extent that may be determined, if at all, by actual measurements only. Under the laws of the United States these changes in capacity can not be made without Federal authority, and to enable the executive officers of the United States to act advisedly in the matter it is necessary, in the opinion of the board, not only that these measurements be taken, but that the money cost of restoring the navigable depths in channels and harbors be carefully estimated.

In the judgment of the board the only way to ascertain the approximate discharge of the lakes is to measure them for periods long enough to eliminate accidental fluctuations and to cover all stages, and for

that purpose it recommends a series of gaugings as important, to be carried out as soon as practicable.

The interests involved in the matter are great, and as this canal, because it will affect the levels and navigation interests of the Great Lakes, is not a local affair, but a national one, the matter is deemed of sufficient importance to be specially mentioned in this report.

BATTLEFIELD PARKS.

It is important that Congress should early adopt and consistently pursue a fixed policy in regard to the marking of the battlefields of the civil war. If the plan of creating battlefield parks is to be impartially pursued on the scale adopted at Chickamauga and Gettysburg, it must embrace fifty places where important actions were fought, and will involve an expenditure of at least \$20,000,000, with additional expenditures for maintenance that may reach \$1,000,000 yearly.

Soon after the close of the war the principal fields were carefully surveyed and mapped. These maps have been printed with the appropriate records and widely circulated, and for historical purposes they furnish the information required for the intelligent study of these battle grounds. About the same time associations of patriotic citizens were formed which purchased large tracts of land on the field of Gettysburg and smaller tracts at Antietam, comprising the military cemeteries and sites for monuments on positions held by the troops. In some instances the States made liberal contributions to these worthy undertakings. At Gettysburg these expenditures amounted to about \$1,500,000, while at Antietam they were much less.

The first specific appropriation by Congress for work upon a battlefield was made in 1880, when \$50,000 was granted for a detailed survey of the field of Gettysburg and a special compilation of data concerning the movements of troops in that battle. In 1887 an appropriation was made to mark the positions there held by the Regular Army. In 1890 a like appropriation was made for Antietam, and the battlefields of Chickamauga and Chattanooga were created national military parks, to which Gettysburg and Shiloh were added by vote of Congress during the present year. The expenditures on these fields up to October 31 have amounted to \$952,359.65, with an unexpended balance of \$189,209.06. The Government has purchased approximately 6,000 acres of land at Chickamauga, and owns 1,000 acres at Gettysburg. At Shiloh no purchases of land have yet been effected, and the sum available for that purpose is limited to \$20,000.

The policy pursued at Antietam, where absolute discretion was lodged in the Department, has been radically different, and if adopted in other cases it is believed that an expenditure of \$100,000 would suitably and permanently mark all the remaining fields of importance and provide for the early completion of a work of national interest. The work there was practically begun and finished this year. About 17 acres of land was purchased in strips, conforming closely to the actual battle lines, and embracing the principal features. Along these, 5 miles of substantial metaled roads were constructed, and 200 iron tablets have been erected, recording the movements of the various commands. The tablets enable even the layman to read accurately the story of the shifting changes of the battle, and the field, instead of being converted into a park, is substantially in the same condition as when the battle was fought, and is likely to remain so for years. The total cost of this completed work has been about \$40,000, including purchase of lands and construction of roads. Omitting the latter, the total cost would have been approximately \$10,000. The cost of maintenance will be small.

It is earnestly recommended that Congress authorize the marking of remaining important battlefields in the manner adopted at Antietam, which can be completed in a few years at a moderate cost, while the project of more national military parks, of thousands of acres bought by the Government, involves the expenditure of millions of dollars and an indefinite lapse of time before completion.

The formal dedication of the Chickamauga and Chattanooga National Park, as directed by statute, was celebrated with appropriate exercises and in the presence of a vast concourse of our people on the 19th and 20th days of September.

In these exercises, which embraced a number of orations by officers distinguished in the battles, representatives of the several departments of the General Government and the executives of many of the States participated, together with survivors of the armies there engaged.

The amount appropriated by Congress for the purpose proved more than sufficient, and after paying all necessary expenses a considerable balance reverted to the Treasury.

THE YELLOWSTONE NATIONAL PARK.

By an order issued in August, 1894, the charge of the work of road construction and improvement of the Yellowstone National Park was transferred to Capt. George S. Anderson, of the Sixth

Cavalry, in command of Fort Yellowstone, who is also the acting superintendent of the park under the Interior Department. This officer has exercised excellent judgment in the prosecution of the work, and with the best results, the appropriations being applied directly to the objects for which they were named with little deduction for expense of administration.

The total mileage of good highways is now about 175, permitting easy access from the railroad to the points of greatest natural interest. An expenditure of \$65,000, which is recommended by the officer in charge, would open 25 miles additional road now impassable for vehicles and complete the general scheme of highways in the park. The cost of maintenance and betterment of the existing system for the coming year is estimated at \$25,000. As our people come to appreciate the natural wonders and beauties of this remarkable region, wisely set apart for the public benefit, a demand may follow for other extensions of the highway system; but present efforts should be confined to the addition herein mentioned and to the gradual surfacing with rock material of portions of existing roads, which will result in eventual reduction of the annual cost for repairs.

EQUESTRIAN STATUES IN WASHINGTON.

The reservation on the north side of Pennsylvania avenue between Seventh and Eighth streets northwest has been designated as the site for the equestrian statue of General Hancock, the contract for which calls for its delivery before April, 1896.

The reservation at the intersection of Pennsylvania avenue and E street has been selected for the statue of General Sheridan, also under contract to be completed during the present fiscal year.

The statue of General Logan, to be located in Iowa Circle, under the terms of the contract is to be delivered before December, 1898.

In the last report of the Department it was stated that the site for the statue to General Sherman had been selected at the east front of the Capitol, north of Greenough's statue of Washington, and it was recommended that a site for a statue to General Grant be reserved in the corresponding plat south of the statue of Washington. In making the appropriation for the statue to General Sherman, Congress, however, specifically prescribed that it should not be erected on the site designated. This necessitates the selection of another site. The recommendation that Congress provide the appropriation for a me-

morial at the national capital worthy to perpetuate the memory of General Grant is renewed.

With the prospect so well assured that in time Washington will rank with the most notable cities of the world in its open-air memorials and statues, and with the undisguised fact that our present statues are of varying degrees of beauty, and, in some instances, of indifferent merit, I beg to repeat a suggestion in the last report for a change in the method of supervising the erection of such memorials. It is again suggested that the President be authorized to appoint a permanent commission, selected from the citizens of the country best qualified to pass on questions of art involved, to whom shall be intrusted the selection of designs and sites for the future monuments of the capital.

THE UNITED STATES SOLDIERS' HOME.

The number of inmates on the roll of the United States Soldiers' Home at Washington on September 30, 1895, was 1,002, a decrease of 63 compared with the previous year. The sources of revenue during the year were: General court-martial fines, \$91,283; deserters and dishonorably discharged men, \$59,223; interest on permanent fund, \$78,602, and proceeds of monthly deduction of 12½ cents from the pay of the Army, \$37,500. The need of a commodious hall for concerts, meetings, and amusements will be supplied in due season by the completion of a building now in course of construction, with an auditorium for 650 people, at the cost of \$64,000.

THE APACHE INDIAN PRISONERS.

The Apache Indian prisoners, including the company of Apache soldiers, were transferred from Mount Vernon Barracks, in Alabama, to Fort Sill, in the Indian Territory, in October, 1894, and are encamped on the military reservation at that post, all under the control of the garrison. Such of these Indian men as are strong and able-bodied are enrolled as Indian soldiers and are held under strict military discipline. The rest of the men of the band are old and infirm, or physically disabled. The women, children, and the disabled number at the present time 246, leaving 50 available for duty as soldiers. Notwithstanding their improved situation as respects sanitary condition and climate, their numbers are slowly decreasing by death, though the ratio of mortality is much lower than formerly.

The band comprises about seventy families, and each will soon have a comfortable house. Plats of land, suitable for cultivation, have been

set apart for each family, inclosed by fence, and by the end of the year about 1,000 acres of prairie land will have been broken up for cultivation. Six hundred range cattle have been purchased and are daily herded by the Indians, and a sawmill has been erected and is used in supplying building material. The children attend the neighboring Indian schools. There has been no insubordination or manifestation of disposition to molest the settlers or to return to their former haunts in Arizona and Mexico.

The Army appropriations are drawn upon for subsistence, medicines, and clothing, though the requirements for these supplies will diminish as the land and herds become productive.

The present year's estimate for means to provide for their special wants is \$7,500, a reduction of \$2,500 from last year.

It is confidently believed that in a few years these Apaches will have reached a self-sustaining basis, but it is not proposed to release them from strict military surveillance until all possible danger of their outbreak is passed.

RECORD AND PENSION OFFICE.

The records of the personnel of the Revolutionary Army, on which work was begun in September, 1894, have been indexed and arranged for use. The progress made in indexing and arranging similar records of the war of 1812 insures the completion of this work by the end of the year. Inquiries requiring reference to these records are increasing, as patriotic associations have revived interest in the early wars of the Republic. The total number of cases of all kinds disposed of was 211,129, of which 152,075 were pension cases. The approaching completion of the index-record card system has permitted a reduction of 50 clerks in the force of the office this year, in addition to the reduction of 300 last year, the total annual saving in salaries being \$400,000. The total number of military cards available for ready reference on June 30, 1895, was 36,867,123, and of medical cards 6,953,285—in all, 43,820,408.

HALL OF RECORDS.

The State, War, and Navy building, as the most recent of the important Federal buildings at the capital, was designed with a view to supply room adequate for office purposes, and for the general preservation of the records of these Departments for many years to come. But it is already unequal to present demands, and several bureaus of

this Department have been forced to rent outside quarters because of the rapid accumulation of records and papers. I recommend the construction of a building specially designed for the preservation of the records of all the Departments which are not required for frequent use. Such a building, centrally located, fireproof, and with all the appliances for the safe storage of papers, would permit each Department the full use of its own rooms for the transaction of business, while removing many important records from the danger of fire or destruction to which they are in some instances now exposed.

WASHINGTON WATER SUPPLY.

An act of Congress approved March 2, 1895, which relates to the increase of the water supply of the city of Washington, directs that the unfinished tunnel conduit between the distributing and Howard University reservoirs shall be tested to determine the amount of its leakage, and that a full and detailed report shall be prepared and submitted to Congress on the first Monday in December, 1895, on the feasibility and propriety of completing the tunnel conduit as now projected and the new reservoir, and upon the probable effect on the water supply of the city when all of such proposed works, as well as the work of increasing the height of the dam at the Great Falls of the Potomac, shall have been completed. It further provides that should the completion of the tunnel conduit be deemed inadvisable, some other plan for bringing the increased water supply from Georgetown to Washington shall be submitted. This investigation and report were to be made by the officer having charge of the Washington Aqueduct and the water supply of the city, with Gen. Thomas L. Casey, U. S. A., retired, as consulting engineer. The report is to be accompanied by the opinion of the Chief of Engineers, and made to the Secretary of War, who is directed to transmit the same to Congress, with his views thereon.

The required report has been received under date of October 30, 1895, but the information on the subject is not conclusive or sufficient to permit such consideration as its very great importance demands. It has therefore been determined, upon the recommendation of the Chief of Engineers, to obtain the judgment of a board of experts before submitting the views of the Department to Congress, as required by the law. The delay will not be great nor disadvantageous, but, on the contrary, is extremely desirable. The unexpended balances of the allotments made in the act mentioned will be sufficient to cover the cost of the further investigations desired.

AN ARLINGTON MEMORIAL BRIDGE.

Improved means of communication between Washington and the Virginia shore must very soon be provided. Another bridge is not only a conceded necessity to the population of both sides of the Potomac and as an approach to the national cemetery at Arlington, but also as a military convenience to bring the principal garrison of the national capital within easy reach of its streets and public buildings.

Twice I have submitted the suggestion that such a structure can easily be made the most impressive of the world's memorials to heroism. The natural advantages of the site are unsurpassed. The region is associated with war as no other region of our country, and the site is distinctly national. Such a memorial bridge, ornamented with statues of our greatest warriors, with symbolical figures of the strong qualities that warfare brings into play, and with representations of the crucial events in national history, would be the same incomparable memorial to the greatness of a peaceful people aroused by war as our single shaft to Washington is the worthiest monument to individual greatness which human genius has yet executed. It is not proposed that the embellishment of the bridge shall now be provided for, but it is urged that its ultimate memorial character shall be considered in the first designs and earliest appropriations.

DANIEL S. LAMONT,
Secretary of War.

APPENDIX.

1895.

Statement of appropriations under direction of the War Department for the fiscal year ended June 30, 1895, showing the amount appropriated under each title of appropriation, the amount drawn by requisition upon the Treasury, and the balances subject to requisition July 1, 1895.

Title of appropriation.	Balance July 1, 1894.	Appropriated July 1, 1894, to June 30, 1895.	Repayments July 1, 1894, to June 30, 1895.	Aggregate available.	Payments July 1, 1894, to June 30, 1895.	Carried to surplus fund June 30, 1895.	Balance June 30, 1895.
SALARIES, CONTINGENCIES, AND CIVIL APPROPRIATIONS.							
Salaries, Office of—							
Secretary of War	\$8,786.91	\$94,001.37	.....	\$102,788.28	\$96,796.00	\$606.91	\$15,385.37
Adjutant-General	2,031.67	163,088.76	.....	165,720.43	158,371.06	1,246.07	6,102.70
Inspector-General	284.98	13,258.63	.....	13,553.61	13,017.57	19.98	510.06
Judge-Advocate-General	157.82	13,758.63	.....	13,916.45	13,638.30	128.46	149.69
Quartermaster-General	5,312.54	143,887.94	.....	149,200.48	140,791.69	2,712.54	5,696.25
Commissary-General	1,347.35	42,760.00	.....	44,107.35	42,580.48	257.35	1,269.52
Surgeon-General	772.46	163,002.98	.....	163,775.44	160,266.19	491.46	3,017.79
Paymaster-General	288.87	34,938.08	.....	35,226.95	34,555.58	3.87	667.50
Chief of Ordnance	73.96	41,005.20	.....	41,079.16	40,632.39	53.96	392.81
Chief of Engineers	119.11	23,240.00	.....	23,359.11	22,703.89	79.11	576.11
Publication of Records of the Rebellion	1,018.88	31,780.00	.....	32,798.88	30,394.76	518.88	1,890.24
Salaries, Record and Pension Office, War Department.	103,368.40	698,780.13	.....	802,148.53	670,190.08	25,268.40	106,690.05
Salaries, Signal Office	.....	5,700.00	.....	5,700.00	5,700.00	.....	.....
Salaries of employees, public buildings and grounds, under chief engineer	7.05	47,060.00	.....	47,067.05	46,981.02	7.05	78.98
Contingent expenses, public buildings and grounds, under chief engineer	.72	505.11	.....	505.83	503.09	.72	2.02
Contingent expenses, War Department.	21,099.92	55,000.00	.....	76,099.92	53,874.60	2,531.99	19,693.33
Postage to Postal Union countries, War Department	190.00	500.00	.....	690.00	500.00	190.00	.....
Stationery, War Department.	14,975.56	35,000.00	.....	49,975.55	33,447.52	4,574.88	11,963.15
Rent of buildings, War Department	100.00	20,125.00	.....	20,225.00	19,225.00	100.00	900.00
Index to Confederate Records, War Department.	4.24	.....	.....	4.24	.....	4.24	.....
Total salaries, contingencies, etc	159,950.43	1,627,991.83	.....	1,787,942.26	1,574,169.22	38,791.47	174,981.57
ERECTION OF MONUMENTS.							
Battle lines and sites for tablets at Antietam	26,310.00	9,421.00	.....	35,731.00	27,810.00	.....	7,921.00
Monuments or tablets at Gettysburg.	9,272.56	50,105.79	.....	59,378.35	38,629.73	.....	25,748.62
Statue to memory of Lafayette and compatriots	103.53	.....	.....	103.53	.....	103.53	.....
Monument at Washington's headquarters, Newburg, N. Y	64.76	.....	.....	64.76	.....	64.76	.....
Pedestals for statues of—							
Gen. Philip H. Sheridan	50,000.00	.....	.....	50,000.00	.....	.....	50,000.00
Gen. John A. Logan	47,999.21	.....	.....	47,999.21	.....	.....	47,999.21
Gen. Winfield Scott Hancock.	47,000.00	.....	.....	47,000.00	.....	.....	47,000.00
Gen. William T. Sherman	50,000.00	.....	.....	50,000.00	.....	.....	50,000.00
Lincoln tablet, Gettysburg National Park	.....	5,000.00	.....	5,000.00	.....	.....	5,000.00
Total erection of monuments.	230,750.06	64,526.79	.....	295,276.85	61,439.73	168.29	233,668.83

BUILDINGS AND GROUNDS IN AND AROUND WASHINGTON, ETC.

Improvement and care of public grounds.....	600.56	48,700.00	.....	49,300.56	47,915.65	600.56	784.25
Repairs, fuel, etc., Executive Mansion.....	1,043.48	85,500.00	.....	36,543.48	30,916.33	43.48	5,583.67
Lighting, etc., Executive Mansion, etc.....	129.76	14,791.25	.....	14,921.01	14,538.54	129.76	252.71
Water supply, Executive Mansion.....	5,300.00	.....	.....	5,300.00	.....	5,300.00	.....
Repairs to water pipes and fire plugs.....	18.45	2,500.00	.....	2,518.45	2,493.63	18.45	6.37
Telegraph to connect the Capitol with the Departments and Govern- ment Printing Office.....	.....	1,250.00	.....	1,250.00	1,250.00	.....	.....
Care and maintenance of Washington Monument.....	32.43	12,170.00	.....	12,202.43	12,139.05	32.43	30.95
Prevention of deposits, harbor of New York.....	64.54	43,000.00	.....	43,064.54	28,713.74	64.54	14,286.26
Steam tug, harbor of New York.....	.....	90,000.00	.....	90,000.00	40,200.00	.....	49,800.00
Transportation of reports and maps to foreign countries.....	101.60	100.00	.....	201.60	.....	14.95	186.65
Support and medical treatment of destitute patients.....	1,583.41	19,000.00	.....	20,583.41	18,999.96	.04	1,583.41
Maintenance of Garfield Hospital.....	.....	19,000.00	.....	19,000.00	19,000.00	.....	.....
National encampment, Grand Army of the Republic.....	1,786.88	.....	.....	1,786.88	.....	.....	1,786.88
Building for State, War, and Navy Departments.....	50,354.12	.....	.....	50,354.12	.....	50,354.12	.....
Water supply, District of Columbia.....	10,669.91	.....	.....	10,669.91	.....	10,669.91	.....
Increasing the water supply, District of Columbia.....	427,446.38	.....	.....	427,446.38	26,440.00	.....	401,006.38
Improving the receiving reservoir.....	.....	90,000.00	.....	90,000.00	72,500.00	.....	17,500.00
Repairs to Aqueeduct Bridge.....	.....	51,070.00	.....	51,070.00	28,500.00	.....	22,570.00
Ford's Theater Building, repairs.....	1,958.00	.....	.....	1,958.00	1,948.61	.....	9.39
Portrait of Benjamin Harrison, ex-President of the United States.....	.....	2,500.00	.....	2,500.00	2,500.00	.....	.....
Investigations pertaining to water rights, etc., at Great Falls.....	.....	4,000.00	.....	4,000.00	.....	.....	4,000.00
Total buildings and grounds in and around Washington.....	501,089.52	433,581.25	.....	934,670.77	348,055.51	67,228.24	519,387.02

MILITARY ESTABLISHMENT.

Expenses of Commanding General's Office.....	.....	1,750.00	.....	1,750.00	1,750.00	.....	.....
Expenses of recruiting.....	41,007.76	100,004.81	.....	141,012.57	60,512.56	1,967.04	78,532.97
Contingencies of fortifications.....	.....	196.40	.....	196.40	196.40	.....	.....
Contingencies, military information division, Adjutant-General's Office.....	.....	3,640.00	.....	3,640.00	3,600.00	.....	40.00
Contingencies, headquarters of military departments.....	370.91	3,000.00	.....	3,370.91	2,180.89	270.91	919.11
Contingencies of the Army.....	14,756.13	15,062.89	.....	29,819.02	5,007.75	4,358.86	20,452.41
Signal Service of the Army.....	40.08	17,000.00	.....	17,040.08	13,234.25	996.14	2,809.69
Mileage to officers traveling without troops.....	.....	140,000.00	.....	140,000.00	137,966.91	.....	2,033.09
Pay, etc., of the Army.....	1,016,232.32	12,926,669.68	.....	13,942,902.00	12,786,867.65	673,647.46	482,386.89
Subsistence of the Army.....	32,268.04	1,676,160.54	.....	1,708,428.58	1,622,876.80	35,676.16	49,875.62
Regular supplies, Quartermaster's Department.....	603,145.58	2,404,018.65	.....	3,007,164.23	2,032,788.80	304,277.99	670,097.44
Incidental expenses, Quartermaster's Department.....	41,060.06	602,645.36	.....	643,705.42	565,704.86	24,083.15	53,917.41
Barracks and quarters.....	69,933.82	1,409,676.30	.....	1,479,610.12	683,566.94	753.87	795,289.31
Transportation of the Army and its supplies.....	697,621.47	2,513,597.09	.....	3,211,218.56	2,204,509.70	121,711.78	884,997.08
Transportation of the Army and its supplies, Pacific railroads.....	.....	186,744.60	.....	186,744.60	.....	.....	.....
Fifty per cent of arrears of Army transportation due certain land- grant railroads.....	.....	39.46	.....	39.46	39.46	.....	.....
Horses for cavalry and artillery.....	40,345.47	101,061.43	.....	141,406.90	70,185.14	14,310.27	56,911.49
Construction and repair of hospitals.....	948.49	45,000.00	.....	45,948.49	34,698.97	985.60	10,263.92
Quarters for hospital stewards.....	494.25	7,000.00	.....	7,494.25	6,912.50	495.82	85.93
Shooting galleries and ranges.....	330.63	15,000.00	.....	15,330.63	14,650.87	330.63	349.13
Purchase of land for target ranges, Fort McPherson, Ga.....	16,500.00	.....	.....	16,500.00	.....	.....	16,500.00
Land for rifle range near Madison Barracks, N. Y.....	.....	8,500.00	.....	8,500.00	8,500.00	.....	.....

Statement of appropriations under direction of the War Department for the fiscal year ended June 30, 1895, etc.—Continued.

Title of appropriation.	Balance July 1, 1894.	Appropriated July 1, 1894, to June 30, 1895.	Repayments July 1, 1894, to June 30, 1895.	Aggregate available.	Payments July 1, 1894, to June 30, 1895.	Carried to surplus fund June 30, 1895.	Balance June 30, 1895.
MILITARY ESTABLISHMENT—continued.							
Bellevue rifle range, Omaha, Nebr.....	\$500.00	\$1,300.00	.....	\$1,800.00	\$1,800.00	.....	.....
Clothing and camp and garrison equipage.....	275,361.47	1,200,190.00	.....	1,475,551.47	900,790.62	\$3,862.39	\$570,898.46
Medical and Hospital Department.....	36,636.32	161,105.00	.....	197,741.32	106,098.34	1,035.78	90,607.20
Hospital, Fort Meade, S. Dak.....	.....	25,000.00	.....	25,000.00	.....	.....	25,000.00
Army Medical Museum.....	.47	5,000.00	.....	5,000.47	4,972.77	27.23	.47
Library, Surgeon-General's Office.....	.....	8,000.00	.....	8,000.00	8,000.00	.....	.....
Engineer depot at Willets Point, N. Y.....	5,700.00	10,000.00	.....	15,700.00	10,377.82	.....	5,322.18
Army and Navy Hospital, Hot Springs, Ark.....	18.07	48.81	.....	66.88	48.81	.....	18.07
Ordnance stores, etc.....	18,596.17	495,026.60	.....	513,622.77	471,798.18	358.81	41,465.78
Ordnance service.....	87.85	100,000.00	.....	100,087.85	99,879.06	87.85	120.94
Ordnance material, proceeds of sales.....	285,351.56	6,779.76	.....	292,131.32	72,971.44	.....	219,159.88
Manufacture of arms.....	359,408.01	400,000.00	.....	759,408.01	508,933.34	.....	250,474.67
Pay of Military Academy.....	30,916.66	233,860.78	.....	264,777.44	223,603.33	25,027.24	10,140.87
Current and ordinary expenses, Military Academy.....	12.10	153,635.50	.....	153,647.60	153,527.66	70.69	49.26
Miscellaneous items and incidental expenses, Military Academy.....	.....	27,540.00	.....	27,540.00	27,449.92	90.08	.....
Total military establishment.....	3,587,643.69	25,004,253.66	.....	28,591,897.35	23,032,746.34	1,214,423.75	4,344,726.20
PUBLIC WORKS.							
Buildings and grounds, Military Academy.							
Buildings and grounds, Military Academy.....	14,065.69	93,994.00	.....	108,059.69	108,059.00	.09	.....
New academic building, Military Academy.....	188,220.19	.....	.....	188,220.19	188,220.12	.....	.07
Memorial Hall, West Point, N. Y.....	.....	246,006.23	.....	246,096.23	5,000.00	.....	241,096.23
New gymnasium, Military Academy.....	.....	.....	\$11.37	11.37	.....	.....	11.37
Total, buildings and grounds, Military Academy.....	202,285.88	340,090.23	11.37	542,387.48	301,279.72	.09	241,107.67
Repayments in excess of payments.....	.....	.....	.....	.....	11.37	.....	.....
Actual expenditures.....	.....	.....	.....	.....	301,268.35	.....	.....
Arsenals.							
Rock Island bridge, Rock Island, Ill.....	7,529.92	12,250.00	.....	19,779.92	12,250.00	.....	7,529.92
Rock Island Arsenal, Rock Island, Ill.....	.....	50,000.00	.....	50,000.00	50,000.00	.....	.....
Benicia Arsenal, Benicia, Cal.....	.....	15,000.00	.....	15,000.00	15,000.00	.....	.....
Columbia Arsenal, Columbia, Tenn.....	.....	2,400.00	.....	2,400.00	2,400.00	.....	.....
Frankford Arsenal, Philadelphia, Pa.....	.....	15,000.00	.....	15,000.00	15,000.00	.....	.....
Indianapolis Arsenal, Indianapolis, Ind.....	.....	14,259.00	.....	14,259.00	5,759.00	.....	8,500.00
Springfield Arsenal, Springfield, Mass.....	2,315.32	10,000.00	.....	12,315.32	11,168.40	.....	1,146.92

Army Gun Factory, Watervliet Arsenal, West Troy, N. Y.....	42,858.73				42,858.73			42,858.73				
Watervliet Arsenal, West Troy, N. Y.....	20,370.00				39,882.80			25,512.80				14,370.00
Watertown Arsenal, Watertown, Mass.....	27,168.84				30,468.84			24,489.00				5,979.84
Repairs of arsenals.....	10.29				95,010.29			94,984.49	10.29			65.51
Powder depot, Dover, N. J.....	19,299.92				19,299.92							19,299.92
Proving ground, Sandy Hook, N. J.....	10,225.21				41,925.21			31,337.82				10,587.39
Testing machine.....					10,000.00			10,000.00				
Total arsenals.....	129,778.23				408,200.03			340,710.24	10.29			67,479.50
Fortifications.												
Artesian well, Fort Monroe, Va.....	6,000.00											6,000.00
Armament of fortifications.....	1,880,413.66				3,372,263.66			1,615,745.13				1,766,518.53
Preservation and repair of fortifications.....	7,354.82				52,354.82			44,689.40				7,655.42
Construction of a counterpoise battery.....	37,400.00				37,400.00							37,400.00
Board of Ordnance and Fortification.....	235,382.94				335,332.94			93,344.10				241,988.84
Board on Fortifications or Other Defenses.....	28,470.77				28,470.77							28,470.77
Board on Pacific Coast Gun Factory.....	2,500.00				2,500.00							2,500.00
Plans for fortifications.....					5,000.00			4,100.00				900.00
Torpedoes for harbor defense.....	130,988.63				133,803.38			67,267.62				66,535.76
Machine guns.....	20,000.00				35,000.00			19,800.00	200.00			15,000.00
Ammunition for morning and evening gun.....	8,939.71				29,539.71			29,539.50				.21
Torpedo howitzers.....	15,000.00				15,000.00							15,000.00
Artillery targets.....	1.89				6,001.89			6,000.00	1.89			
Pneumatic dynamite guns.....	587,361.45				587,361.45			165,865.00				421,496.45
Ten-inch pneumatic disappearing gun carriage.....					50,000.00			10,000.00				40,000.00
Sea wall, north shore of Sandy Hook, N. J.....					7,500.00			7,500.00				
Sea wall, Governors Island, New York Harbor.....	297.94				297.94							297.94
Sea walls and embankments.....	1,000.25				1,000.25			1,000.25				
Sites for fortifications and seacoast defenses.....	52,788.80				202,788.80			52,795.16				149,993.64
Gun and mortar batteries.....	248,024.81				748,024.81			236,942.74				511,082.07
Powder and projectiles, proceeds of sales.....	5,877.22				5,877.22							5,877.22
Purchase of sites for seacoast defenses.....	100.28				100.28							100.28
Total fortifications.....	3,267,853.17				5,661,617.92			2,354,598.90	201.89			3,306,817.13
Military posts.												
Wharf at Fort Monroe, Va.....	28,336.61				28,336.61							28,336.61
Sewerage system, Fort Monroe, Va.....	24,902.10				70,809.60			33,509.60				37,300.00
Bridge over Mill Creek, Fort Monroe, Va.....	115.78				115.78							115.78
Reconstructing bridge, Niobrara River, Nebr.....	7,000.00				7,000.00			6,942.16				57.84
Water supply, Fort D. A. Russell, Wyo.....	2,958.15				2,958.15			149.50				2,808.65
Purchase of Fort Brown Reservation, Tex.....	160,000.00				160,000.00			160,000.00				
Military storehouse, Omaha, Nebr.....	35,000.00				35,000.00			23,780.87				11,219.13
Additional lands, Fort Ethan Allen Military Reservation.....					7,000.00							7,000.00
Transfer of school site, Fort McClary Military Reservation, Mo.....	200.00				200.00			49.65				150.35
Military posts.....	104,136.43				422,480.80			289,200.63				133,280.12
Military post, Helena, Mont.....	88,000.00				88,000.00			88,000.00				
Purchase of buildings at military posts.....	9,977.48				9,977.48							9,977.48
Shiloh National Military Park.....					75,000.00			7,500.00				67,500.00

Statement of appropriations under direction of the War Department for the fiscal year ended June 30, 1895, etc.—Continued.

Title of appropriation.	Balance July 1, 1894.	Appropriated July 1, 1894, to June 30, 1895.	Repayments July 1, 1894, to June 30, 1895.	Aggregate available.	Payments July 1, 1894, to June 30, 1895.	Carried to surplus fund June 30, 1895.	Balance June 30, 1895.
PUBLIC WORKS—continued.							
Military posts—Continued.							
Improvement of Yellowstone National Park.....		\$30,000.00		\$30,000.00	\$30,000.00		\$42,469.35
Chickamauga and Chattanooga National Park.....	\$53,595.41	170,000.00		223,595.41	141,126.00		73,000.00
Gettysburg National Park.....		75,000.00		75,000.00			2,000.00
Payment to Gettysburg Battlefield Memorial Association.....		2,000.00		2,000.00			
Total military posts.....	514,221.96	723,251.87		1,237,473.83	780,256.52		457,217.31
Harbors and rivers.							
Improving harbor at—							
Belfast, Me.....		8,000.00		8,000.00	8,000.00		5,000.00
Rockland, Me.....		30,000.00		30,000.00	10,000.00		20,000.00
Breakwater from Mount Desert to Porcupine Islands, Me.....	35,000.00	16,391.12		51,391.12	44,391.12		7,000.00
Improving harbor at—							
Portland, Me.....	24,000.00			24,000.00	24,000.00		
Camden, Me.....		12,000.00		12,000.00			12,000.00
Improving—							
Channel in Back Cove, Portland, Me.....	19,000.00	20,000.00		39,000.00	27,000.00		12,000.00
Harbor at Portsmouth, N. H.....	4,432.39			4,432.39			4,432.39
Harbor of refuge at Little Harbor, N. H.....	5,000.00	10,000.00		15,000.00	5,000.00		10,000.00
Improving harbor at—							
Burlington, Vt.....	15,000.00	10,000.00		25,000.00			25,000.00
Swanton, Vt.....	326.93			326.93			326.93
Harbor of refuge at—							
Sandy Bay, Cape Ann, Mass.....	30,000.00	150,000.00		180,000.00	24,000.00		156,000.00
Wood's Holl, Mass.....		5,000.00		5,000.00	5,000.00		
Improving harbor at—							
Boston, Mass.....	139,500.00	200,000.00		339,500.00	99,000.00		240,500.00
Hyannis, Mass.....		3,500.00		3,500.00	1,000.00		2,500.00
Gloucester, Mass.....	19,000.00	40,000.00		59,000.00	22,000.00		37,000.00
Lynn, Mass.....		7,500.00		7,500.00			7,500.00
Nantucket, Mass.....	16,100.00	25,000.00		41,100.00	18,700.00		22,400.00
Newburyport, Mass.....	7,000.00	20,000.00		27,000.00	7,000.00		20,000.00
New Bedford, Mass.....		7,500.00		7,500.00	1,000.00		6,500.00
Plymouth, Mass.....	1,500.00	1,500.00		3,000.00			3,000.00
Provincetown, Mass.....	3,500.00	1,500.00		5,000.00			5,000.00
Scituate, Mass.....		10,000.00		10,000.00	5,000.00		5,000.00
Salem, Mass.....	9,000.00			9,000.00	9,000.00		
Vineyard Haven, Mass.....		7,500.00		7,500.00			7,500.00
Wellfleet, Mass.....	4,000.00			4,000.00			4,000.00
Martha's Vineyard, Mass.....		2,500.00		2,500.00	1,000.00		1,500.00

Improving Canapisset Channel, Mass.	.....	5,000.00	.....	5,000.00	.....	500.00	.....	4,500.00
Harbor of refuge at Point Judith, R. I.	.....	400,000.00	.....	400,000.00	.....	186,000.00	.....	280,000.00
Improving Cove Coasters Harbor, R. I.	.....	.....	.....	.....	.....	.....	.....	.50
Improving harbor at—	.....	.....	.....	.....	.....	.....	.....	.....
Block Island, R. I.	.....	2,500.00	.....	2,500.00	.....	1,000.00	.....	1,500.00
Newport, R. I.	.....	7,500.00	.....	7,500.00	.....	1,000.00	.....	8,000.00
Improving entrance to Point Judith Pond, R. I.	.....	2,500.00	.....	2,500.00	.....	.....	.....	9,847.38
Breakwater at New Haven, Conn.	.....	125,000.00	.....	125,000.00	.....	42,500.00	.....	85,000.00
Harbor of refuge, Duck Island Harbor, Conn.	.....	30,000.00	.....	30,000.00	.....	1,500.00	.....	30,000.00
Improving harbor at—	.....	.....	.....	.....	.....	.....	.....	.....
Bridgeport, Conn.	.....	10,000.00	.....	10,000.00	.....	7,000.00	.....	3,000.00
Black Rock, Conn.	.....	2,500.00	.....	2,500.00	.....	2,500.00	.....	.....
Five Mile River, Conn.	.....	2,500.00	.....	2,500.00	.....	.....	.....	2,500.00
New Haven, Conn.	.....	10,000.00	.....	10,000.00	.....	.....	.....	10,000.00
Norwalk, Conn.	.....	15,000.00	.....	15,000.00	.....	1,500.00	.....	13,500.00
Stonington, Conn.	.....	5,000.00	.....	15,800.00	.....	11,000.00	.....	4,800.00
Stamford, Conn.	.....	10,000.00	.....	10,000.00	.....	.....	.....	10,000.00
Wilsons Point, Conn.	.....	.....	.....	823.10	.....	323.10	.....	500.00
Cos Cob and Mianus River, Conn.	.....	4,000.00	.....	4,000.00	.....	.....	.....	4,000.00
Improving—	.....	.....	.....	.....	.....	.....	.....	.....
Buttermilk Channel, N. Y.	.....	50,000.00	.....	50,000.00	.....	5,000.00	.....	45,000.00
Arthur Kill, between Staten Island and New Jersey, N. Y. and N. J.	.....	4,500.00	.....	550.00	.....	4,073.86	.....	976.14
Canarsie Bay, N. Y.	.....	2,000.00	.....	2,000.00	.....	.....	.....	2,000.00
Channel between Staten Island and New Jersey, N. Y. and N. J.	.....	11,500.00	.....	17,500.00	.....	17,500.00	.....	.....
Channel in Gowanus Bay, N. Y.	.....	80,000.00	.....	230,000.00	.....	120,000.00	.....	110,000.00
Improving harbor at—	.....	.....	.....	.....	.....	.....	.....	.....
Buffalo, N. Y.	.....	72,621.95	.....	142,621.95	.....	8,000.00	.....	134,621.95
Charlotte, N. Y.	.....	2,000.00	.....	17,000.00	.....	8,000.00	.....	9,000.00
Dunkirk, N. Y.	.....	1,498.41	.....	21,498.41	.....	19,200.00	.....	2,298.41
Improving Flushing Bay, N. Y.	.....	.....	.....	4,000.00	.....	.....	.....	4,000.00
Improving harbor at—	.....	.....	.....	.....	.....	.....	.....	.....
Great Sodus Bay, N. Y.	.....	1,277.85	.....	15,000.00	.....	6,000.00	.....	9,000.00
Greenport, N. Y.	.....	.....	.....	1,277.85	.....	.....	.....	1,277.85
Glen Cove, N. Y.	.....	10,000.00	.....	10,000.00	.....	10,000.00	.....	.....
Huntington, N. Y.	.....	2,000.00	.....	2,000.00	.....	.....	.....	2,000.00
Larchmont, N. Y.	.....	120.95	.....	120.95	.....	.....	.....	120.95
Little Sodus Bay, N. Y.	.....	.....	.....	8,000.00	.....	4,000.00	.....	4,000.00
Ogdensburg, N. Y.	.....	.....	.....	20,000.00	.....	7,500.00	.....	12,500.00
Olcott, N. Y.	.....	4,000.00	.....	4,000.00	.....	.....	.....	4,000.00
Oswego, N. Y.	.....	6,000.00	.....	43,000.00	.....	25,000.00	.....	18,000.00
Port Chester, N. Y.	.....	.....	.....	5,000.00	.....	1,000.00	.....	4,000.00
Port Jefferson, N. Y.	.....	1,000.00	.....	8,500.00	.....	1,500.00	.....	7,000.00
Pultneyville, N. Y.	.....	.....	.....	1,500.00	.....	500.00	.....	1,000.00
Rondout, N. Y.	.....	.....	.....	5,000.00	.....	500.00	.....	4,500.00
Saugerties, N. Y.	.....	.....	.....	5,000.00	.....	.....	.....	5,000.00
Improving—	.....	.....	.....	.....	.....	.....	.....	.....
Tonawanda Harbor and Niagara River, N. Y.	.....	19,000.00	.....	60,000.00	.....	23,000.00	.....	46,000.00
New York Harbor, N. Y.	.....	18,000.00	.....	93,000.00	.....	28,000.00	.....	65,000.00
Harbor at Sacketts Harbor, N. Y.	.....	.....	.....	5,000.00	.....	.....	.....	5,000.00
Harbor at Mamaroneck, N. Y.	.....	220.55	.....	220.55	.....	.....	.....	220.55
Harbor at Keyport, N. J.	.....	.....	.....	5,000.00	.....	.....	.....	5,000.00
Raritan Bay, N. J.	.....	.....	.....	40,000.00	.....	26,000.00	.....	14,000.00

Statement of appropriations under direction of the War Department for the fiscal year ended June 30, 1905, etc.—Continued.

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REPORT OF THE SECRETARY OF WAR

Title of appropriation.		Balance July 1, 1904.	Appropriated July 1, 1904, to June 30, 1905.	Repayments July 1, 1904, to June 30, 1905.	Aggregate available.	Payments July 1, 1904, to June 30, 1905.	Carried to unexpended fund June 30, 1905.	Balance June 30, 1905.
PUBLIC WORKS—continued.								
Harbors and rivers—Continued.								
Improving—Continued.								
Shoal Harbor and Comptons Creek, N. J.			\$3,000.00		\$3,000.00	\$3,000.00		\$721,000.00
Harbor between Philadelphia, Pa., and Camden, N. J.		\$316,000.00	1,100,000.00		1,416,000.00	684,000.00		\$1,732,000.00
Harbor at Erie, Pa.		45,286.63	10,000.00		55,286.63	3,000.00		
Ice harbor at—								
Marcus Hook, Pa.		2,947.39			2,947.39			2,947.39
Reedy Island, Del.		16,286.93			16,286.93			16,286.93
Improving harbor at—								
Wilmington, Del.		2,000.00	25,000.00		27,000.00	0,700.00		\$21,300.00
Delaware Breakwater, Del.		734.08	50,000.00		50,734.08			50,734.08
Board to determine route of Chesapeake and Delaware Canal.			5,000.00		5,000.00	2,600.71		2,400.00
Improving harbor at—								
Baltimore, Md.			50,000.00		50,000.00	40,000.00		10,000.00
Annapolia, Md.		1,524.58			1,524.58			1,524.58
Cambridge, Md.		6,737.00			6,737.00			6,737.00
Cape Charles City, Va.		10,000.00			10,000.00			10,000.00
Norfolk, Va.			100,000.00		100,000.00	88,000.00		12,000.00
Protecting Jamestown Island, Va.			10,000.00		10,000.00	10,000.00		
Improving—								
Harbor at Beaufort, N. C.		7,900.00			7,900.00	4,000.00		3,900.00
Edenton Bay, N. C.		2,447.41			2,447.41			2,447.41
Improving waterway between—								
Newbern and Beaufort, N. C.		7,000.00			7,000.00			7,000.00
Beaufort Harbor and New River, N. C.		6,000.00	2,500.00		8,500.00	210.00		8,290.00
Improving—								
Harbor at Charleston, S. C.		245,000.00	950,000.00		1,195,000.00	700,000.00		495,000.00
Winyaw Bay, S. C.		25,000.00	110,000.00		135,000.00	70,000.00		65,000.00
Outer bar at Brunswick, Ga.		100,000.00	175,000.00		275,000.00	117,070.00		157,930.00
Improving harbor at—								
Brunswick, Ga.			10,000.00		10,000.00	10,000.00		
Darien, Ga.			25,000.00		25,000.00	25,000.00		
Savannah, Ga.		250,000.00	1,531,250.00		2,081,250.00	1,000,000.00		1,081,250.00
Improving—								
Cumberland Sound, Ga. and Fla.			170,000.00		170,000.00	170,000.00		
Apalachicola Bay, Fla.			15,000.00		15,000.00	500.00		14,500.00
Channel, Charlotte Harbor and Pease Creek, Fla.			20,000.00		20,000.00	0,000.00		20,000.00
Tampa Bay, Fla.					\$0.00			\$0.00

Improving harbor at—									
Key West, Fla.			80,000.00				80,000.00		
Pensacola, Fla.			100,000.00				3,000.00		97,000.00
St. Augustine, Fla.			6,000.00	10			20,000.00		0,000.10
New Madrid, Mo.			20,000.00						
St. Louis, Mo.	31,000.00						31,000.00		31,000.00
Mobile, Ala.	125,000.00		681,300.00				475,000.00		331,300.00
Improving—									
Channel in West Galveston Bay, Tex.	7,500.00		5,000.00				10,500.00		2,000.00
Ship channel in Galveston Bay, Tex.	15,000.00		50,000.00				40,500.00		24,500.00
Improving harbor at—									
Brazos Santiago, Tex.	56,855.00						56,855.00		56,855.00
Galveston, Tex.	344,845.30		1,960,000.00				1,169,845.30		1,135,000.00
Ashtabula, Ohio.			75,000.00				10,000.00		65,000.00
Black River, Ohio.			10,000.00				1,800.00		8,200.00
Cleveland, Ohio.			50,000.00				6,200.00		43,800.00
Fairport, Ohio.	4,800.00		25,059.96				9,859.96		20,000.00
Huron, Ohio.			10,000.00						10,000.00
Port Clinton, Ohio.	4,700.00		6,000.00				4,700.00		6,000.00
Sandusky City, Ohio.	22,025.00		30,000.00				37,525.00		14,500.00
Toledo, Ohio.	103,500.00		70,000.00				96,500.00		77,000.00
Vermillion, Ohio.			2,000.00						2,000.00
Conneaut, Ohio.			40,000.00				12,500.00		27,500.00
Michigan City, Ind.	12,500.00		30,000.00				11,500.00		31,000.00
Calumet, Ill.	5,000.00		15,000.00				5,000.00		15,000.00
Chicago, Ill.	25,000.00		80,000.00				15,000.00		90,000.00
Waukegon, Ill.	3,000.00		20,000.00						23,000.00
Alpena, Mich.			4,000.00						4,000.00
Harbor of refuge at—									
Grand Marais, Mich.	5,450.00		20,000.00				6,000.00		19,450.00
Portage Lake, Mich.			25,000.00						25,000.00
Sand Beach, Mich.			20,000.00				45,000.00		105,000.00
Improving harbor at—									
Black Lake, Mich.	1,000.00		15,000.00				3,000.00		13,000.00
Charlevoix, Mich.	2,000.00		8,000.00						10,000.00
Frankfort, Mich.	3,000.00		50,000.00				1,500.00		51,500.00
Grand Haven, Mich.	25,000.00		25,000.00				25,000.00		25,000.00
Manistee, Mich.	2,000.00		12,000.00				2,000.00		12,000.00
Cheboygan, Mich.	17,955.00						2,955.00		15,000.00
Lullington, Mich.	1,500.00		6,000.00				1,500.00		6,000.00
Manistique, Mich.	2,000.00								2,000.00
Marquette, Mich.	9,800.00		30,000.00				26,276.19		13,523.81
Monroe, Mich.			5,000.00				3,500.00		1,500.00
Muskegon, Mich.			30,000.00				5,000.00		25,000.00
Ontonagon, Mich.	5,000.00		7,000.00				1,763.09		10,246.91
Pontwater, Mich.	4,000.00		5,000.00				500.00		8,500.00
Petoskey, Mich.	34,780.80		10,000.00				1,780.80		43,000.00
St. Joseph, Mich.	47.20		30,000.00				8,000.00		22,047.20
South Haven, Mich.			20,000.00				2,000.00		18,000.00
White River, Mich.	4,500.00		5,000.00				500.00		9,000.00
Saugatuck, Mich.			12,000.00				5,000.00		7,000.00
Anasable, Mich.	196.50								196.50

REPORT OF THE SECRETARY OF WAR.

Title of appropriation.	Balance July 1, 1894.	Appropriated July 1, 1894, to June 30, 1895.	Repayments July 1, 1894, to June 30, 1895.	Aggregate available.	Payments July 1, 1894, to June 30, 1895.	Carried to surplus fund June 30, 1895.	Balance June 30, 1895.
PUBLIC WORKS—continued.							
Harbors and rivers—Continued.							
Improving Eagle Harbor, Mich.	\$2,082.75			\$2,082.75	\$979.00		\$1,103.75
Improving mouth and harbor of Cedar River, Mich.	1,500.00			1,500.00			1,500.00
Ice harbor at Dubuque, Iowa.	4,503.99			4,503.99			4,503.99
Improving harbor at—							
Memphis, Tenn.		\$50,000.00		50,000.00	40,000.00		10,000.00
Ahnapee, Wis.	1,500.00	5,000.00		6,500.00	2,500.00		4,000.00
Ashland, Wis.	1,000.00	25,000.00		26,000.00	16,500.00		9,500.00
Green Bay, Wis.		25,000.00		25,000.00	4,000.00		21,000.00
Kenosha, Wis.		15,000.00		15,000.00	1,000.00		14,000.00
Kewaunee, Wis.		20,000.00		20,000.00	1,000.00		19,000.00
Manitowoc, Wis.	21,000.00	20,000.00		41,000.00	5,000.00		36,000.00
Menomonee, Wis.		10,000.00		10,000.00	10,000.00		
Milwaukee, Wis.		7,000.00		7,000.00	6,000.00		1,000.00
Oconto, Wis.	1,000.00	3,000.00		4,000.00	500.00		3,500.00
Pensaukee, Wis.	500.00			500.00			500.00
Port Washington, Wis.		5,000.00		5,000.00			5,000.00
Racine, Wis.		20,000.00		20,000.00	4,000.00		16,000.00
Superior Bay and St. Louis Bay, Wis.	8,400.00	50,000.00		58,400.00	15,000.00		43,400.00
Sheboygan, Wis.	1,000.00	25,000.00		26,000.00	7,000.00		19,000.00
Two Rivers, Wis.		3,000.00		3,000.00	3,000.00		
Harbor of refuge—							
Milwaukee Bay, Wis.	1,000.00	45,000.00		46,000.00	1,000.00		45,000.00
At entrance of Sturgeon Bay Canal, Wis.		5,000.00		5,000.00			5,000.00
Harbor, Minnesota Point, at Superior, Wis.	45.92			45.92			45.92
Improving harbor at—							
Agate Bay, Minn.		30,000.00		30,000.00	25,000.00		5,000.00
Grand Marais, Minn.		3,000.00		3,000.00			3,000.00
Duluth, Minn.	9,524.55	75,000.00		84,524.55	26,206.91		58,317.64
Breakwater and harbor of refuge between Straits of Fuca and San Francisco, Cal.	140,858.52			140,858.52			140,858.52
Improving Humboldt Harbor and Bay, Cal.	466,000.00	225,000.00		691,000.00	299,000.00		392,000.00
Improving harbor at—							
Oakland, Cal.	57,443.07	100,000.00		157,443.07	99,993.33		57,449.74
San Luis Obispo, Cal.		40,000.00		40,000.00	5,000.00		35,000.00
San Diego, Cal.		50,000.00		50,000.00	15,022.70		34,977.30
Survey of—							
San Francisco Harbor, San Pablo and Suisun bays, Straits of Carquinez, and mouths of San Joaquin and Sacramento rivers, Cal.	1,000.00			1,000.00			1,000.00
Pacific coast between Points Duma and Capistrano, Cal.	3,349.22			3,349.22			3,349.22

Examination for deep-water harbor at San Pedro or Santa Monica Bay, Cal.	04,874.96	04,874.96	114,000.00	90,000.00	0,874.96	0,874.96
Improving entrance to Coos Bay and Harbor, Oreg.	164,000.00	164,000.00	114,000.00	90,000.00	114,000.00	17,000.00
Improving Yaquina Bay, Oreg.	54,000.00	54,000.00	54,000.00	40,000.00	54,000.00	14,000.00
Improving Tillamook Bay and Bar, Oreg.	16,000.00	16,000.00	20,000.00	12,000.00	20,000.00	8,000.00
Improving Nehalem Bay, Oreg.	9,584.92	9,584.92	25,000.00	18,000.00	25,000.00	9,864.92
Improving Gray's Harbor and Chehalis River, Wash.	25,000.00	25,000.00	40,000.00	28,000.00	40,000.00	7,000.00
Improving harbor at—						
Olympia, Wash.	40,000.00	40,000.00	80,000.00	75,000.00	80,000.00	500.00
Green's Bl.	86,000.00	86,000.00	80,000.00	75,000.00	80,000.00	5,000.00
Vicksburg, Miss.	40,000.00	40,000.00	40,000.00	5,000.00	40,000.00	35,000.00
Natchez and Vidalia, Miss. and La.	75,000.00	75,000.00	125,000.00	75,000.00	125,000.00	80,000.00
New Orleans, La.	110,000.00	110,000.00	110,000.00	100,000.00	110,000.00	10,000.00
Ship channel connecting waters of the Great Lakes between Chicago, Ill., and Buffalo	815,000.00	815,000.00	500,000.00	315,000.00	500,000.00	500,000.00
Committee on water communications between the Great Lakes and the Atlantic Ocean	18,000.00	18,000.00	18,000.00		18,000.00	10,000.00
Improving—						
Lake Champlain, Me.	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00	8,000.00
Moosabec Bar, at Jonesport, Me.	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00	10,000.00
Hagaduce River, Me.	20,000.00	20,000.00	25,000.00	15,000.00	25,000.00	1,507.50
Harrissockt River, Me.	1,507.50	1,507.50	80,000.00	16,000.00	80,000.00	64,000.00
Kennebec River, Me.	30,000.00	30,000.00	25,000.00	15,000.00	25,000.00	10,000.00
Kennebec River, Me.	25,000.00	25,000.00	11,500.00	11,500.00	11,500.00	10,000.00
Penobscot River, Me.	6,500.00	6,500.00	24,000.00	14,000.00	24,000.00	10,000.00
Narragansett River, Me.	5,000.00	5,000.00	35,000.00	35,000.00	35,000.00	35,000.00
Saco River, Me.	14,000.00	14,000.00	15,000.00	15,000.00	15,000.00	15,000.00
St. Croix River, Me.	7,500.00	7,500.00	25,000.00	16,000.00	25,000.00	5,043.40
Bellamy River, N. H.	35,000.00	35,000.00	4,785.00	2,965.00	4,785.00	1,800.00
Cocheo River, N. H.	10,000.00	10,000.00	4,900.00	3,500.00	4,900.00	1,400.00
Otter Creek, Vt.	4,785.00	4,785.00	27,000.00	3,500.00	27,000.00	28,700.00
Ipawich River, Mass.	12,000.00	12,000.00	5,000.00	1,500.00	5,000.00	3,500.00
Merrimac River, Mass.	9,900.00	9,900.00	14,000.00	4,000.00	14,000.00	10,000.00
Powow River, Mass.	8,900.00	8,900.00	10,000.00	5,000.00	10,000.00	19,000.00
Taunton River, Mass.	5,000.00	5,000.00	7,500.00	7,500.00	7,500.00	7,500.00
Weymouth River, Mass.	2,200.00	2,200.00	17,500.00	4,000.00	17,500.00	15,100.00
Malden and Malden rivers, Mass.	7,000.00	7,000.00	4,000.00	4,000.00	4,000.00	6,000.00
Removing Green Jacket Shoal, Providence River, R. I.	8,940.30	8,940.30	25,000.00	8,000.00	25,000.00	24,000.00
Improving—						
Providence River and Narragansett Bay, R. I.	8,940.30	8,940.30	28,500.00	3,500.00	28,500.00	8,940.30
Pawcatuck River, R. I.	1,435.00	1,435.00	23,500.00	7,435.00	23,500.00	20,000.00
Connecticut River between Hartford and Holyoke, Conn.	3,500.00	3,500.00	3,500.00	3,500.00	3,500.00	18,000.00
Connecticut River, Conn.	2,918.00	2,918.00	12,500.00	8,500.00	12,500.00	15,418.00
Housatonic River, Conn.	3,000.00	3,000.00	75,000.00	30,000.00	75,000.00	3,000.00
Merrimac River, Conn.	10,000.00	10,000.00				55,000.00
Removing obstructions in East River and Hell Gate, N. Y.						

REPORT OF THE SECRETARY OF WAR.

Title of appropriation.	Balance July 1, 1894.	Appropriated July 1, 1894, to June 30, 1895.	Repayments July 1, 1894, to June 30, 1895.	Aggregate available.	Payments July 1, 1894, to June 30, 1895.	Carried to surplus fund June 30, 1895.	Balance June 30, 1895.
PUBLIC WORKS—continued.							
Harbors and rivers—Continued.							
Improving—							
Brown's Creek, N. Y.		\$4,000.00		\$4,000.00			\$4,000.00
East Chester Creek, N. Y.		12,000.00		12,000.00	\$9,000.00		3,000.00
Grass River at Massena, N. Y.				.30	.30		
Great Chazy River, N. Y.		3,000.00		3,000.00	3,000.00		
Harlem River, N. Y.	\$85,000.00	125,000.00		210,000.00	77,714.17		132,285.83
Hudson River, N. Y.	464,000.00	645,000.00		1,109,000.00	469,000.00		640,000.00
Patchogue River, N. Y.		4,000.00		4,000.00			4,000.00
St. Lawrence River, N. Y.	2,150.00	8,000.00		10,150.00			10,150.00
Niagara River, N. Y.	20,000.00	10,000.00		30,000.00	8,500.00		21,500.00
Newtown Creek, N. Y.		20,000.00		20,000.00	20,000.00		
Goshen Creek, N. J.		3,000.00		3,000.00			
Alloway Creek, N. J.		3,000.00		3,000.00	3,000.00		3,000.00
Mattawan Creek, N. J.		3,000.00		3,000.00			3,000.00
Elizabeth River, N. J.		3,000.00		3,000.00			3,000.00
Passaic River, N. J.	8,750.00	15,000.00		23,750.00	10,750.00		13,000.00
Shrewsbury River, N. J.		5,000.00		5,000.00	3,500.00		1,500.00
South River, N. J.	894.00	5,000.00		5,894.00	5,894.00		
Raccoon River, N. J.	2,242.77			2,242.77			2,242.77
Squan River, N. J.	2,000.00			2,000.00			2,000.00
Rancocas River, N. J.		3,000.00		3,000.00	3,000.00		
Salem River, N. J.		1,700.00		1,700.00	1,700.00		
Raritan River, N. J.	2,000.00	20,000.00		22,000.00	2,000.00		20,000.00
Frankford Creek, Pa.		2,000.00		2,000.00			2,000.00
Dam at Herr's Island, Allegheny River, near Pittsburg, Pa.	64,800.00	40,000.00		104,800.00	39,800.00		65,000.00
Purchase of upper lock and dam, Monongahela River, between Pittsburg, Pa., and Morgantown, W. Va.	323,333.13			323,333.13			323,333.13
Cost of condemnation of upper lock and dam, Monongahela River, between Pittsburg, Pa., and Morgantown, W. Va.	5,098.64			5,098.64			5,098.64
Improving—							
Allegheny River, Pa.	10,800.00	12,500.00		23,300.00	7,300.00		16,000.00
Delaware River, Pa.	88,000.00	170,000.00		258,000.00	62,000.00		196,000.00
Schuylkill River, Pa.	7,250.00	20,000.00		27,250.00	800.00		26,450.00
Survey of Delaware River between Philadelphia, Pa., and Camden, N. J.	4,465.28			4,465.28			4,465.28
Improving—							
Murderkill River, Del.		6,500.00		6,500.00	6,500.00		
Mispillion Creek, Del.	500.00	10,000.00		10,500.00	350.00		10,150.00
Appoquinimink River, Del.		5,000.00		5,000.00			5,000.00
Smyrna River, Del.		5,000.00		5,000.00			5,000.00
Broad Creek, Del.		5,000.00		5,000.00	5,000.00		

REPORT OF THE SECRETARY OF WAR.

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Choptank River, Md	2,968.54	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00
Chester River, Md		1,500.00	1,500.00	4,458.54	4,458.54	4,458.54	4,458.54
Manokin River, Md		4,000.00	4,000.00	4,000.00			4,000.00
Patuxent River, Md	640.87				258.17		
Susquehanna River near Havre de Grace, Md	8,000.00	4,000.00	4,000.00	12,000.00	2,000.00		10,000.00
Wicomico River, Md		3,000.00	3,000.00	3,000.00			3,000.00
Patapsco River, Md		12,000.00	12,000.00	12,000.00			12,000.00
Potomac River, Md	46,500.00	150,000.00	150,000.00	196,500.00	105,500.00		91,000.00
Warwick River, Md		2,000.00	2,000.00	2,000.00	2,000.00		
Latrappe River, Md		4,750.00	4,750.00	4,750.00	4,750.00		
Waterway from Chincoteague Bay to Indian River Bay, Va., Md., and Del.	13,500.00	25,000.00	25,000.00	38,500.00	22,000.00		16,500.00
Acquia Creek, Va		3,000.00	3,000.00	3,000.00	3,000.00		
Ocoquan Creek, Va		5,000.00	5,000.00	5,000.00	2,500.00		2,500.00
Nomini Creek, Va	6,000.00	5,000.00	5,000.00	11,000.00	6,000.00		5,000.00
Urbana Creek, Va		3,000.00	3,000.00	3,000.00			3,000.00
Appomattox River, Va	2,500.00	5,000.00	5,000.00	7,500.00	3,100.00		4,400.00
James River, Va	75,000.00	100,000.00	100,000.00	175,000.00	65,000.00		110,000.00
Mattaponi River, Va	500.00	4,000.00	4,000.00	4,500.00			4,500.00
Nansemond River, Va		10,000.00	10,000.00	10,000.00	10,000.00		
Pamunkey River, Va	2,500.00	2,000.00	2,000.00	4,500.00	3,000.00		1,500.00
Rappahannock River, Va	2,500.00	10,000.00	10,000.00	12,500.00			12,500.00
Staunton River, Va	8,084.77			8,084.77			8,084.77
York River, Va	3,928.13	20,000.00	20,000.00	23,928.13	7,428.13		16,500.00
North Landing River, Va	1,300.00			1,300.00			1,300.00
New River, Va. and W. Va	2,341.79			2,341.79	32.85		2,308.94
Dan River, Va. and N. C	39.63			39.63			39.63
Lower Machodoc Creek, Va		3,000.00	3,000.00	3,000.00			3,000.00
Big Sandy River, W. Va. and Ky		45,000.00	45,000.00	45,000.00	25,000.00		20,000.00
Elk River, W. Va		2,000.00	2,000.00	2,000.00	500.00		1,500.00
Gauley River, W. Va		3,000.00	3,000.00	3,000.00	2,500.00		500.00
Guyandotte River, W. Va		2,000.00	2,000.00	2,000.00	1,000.00		1,000.00
Great Kanawha River, W. Va	366,086.31	580,700.00	580,700.00	946,816.31	176,153.31		770,633.00
Monongahela River, W. Va	18,500.00	20,000.00	20,000.00	38,500.00			38,500.00
Shenandoah River, W. Va	16,020.49			16,020.49			16,020.49
Waterway from Norfolk Harbor, Va., to Albemarle Sound, N. C		10,000.00	10,000.00	10,000.00	7,000.00		3,000.00
Ocracoke Inlet, N. C	95,500.00			95,500.00	18,000.00		77,500.00
Waterway between New River and Swansboro, N. C	4,200.00			4,200.00			4,200.00
Contentnia Creek, N. C		10,000.00	10,000.00	10,000.00	3,500.00		6,500.00
Fishing Creek, N. C	15,000.00			15,000.00			15,000.00
Cape Fear River, N. C	98,000.00	219,000.00	219,000.00	317,000.00	185,000.00		132,000.00
Pasquotank River, N. C	500.00	1,000.00	1,000.00	1,500.00			1,500.00
New River, N. C	6,990.00			6,990.00	2,490.00		4,500.00
Neuse River, N. C	14,503.00	7,000.00	7,000.00	21,503.00	10,500.00		11,003.00
Lockwoods Folly River, N. C	3,000.00	10,000.00	10,000.00	13,000.00	6,000.00		7,000.00
Lumber River, N. C		4,000.00	4,000.00	4,000.00	1,000.00		3,000.00
Pamlico and Tar rivers, N. C		10,000.00	10,000.00	10,000.00	1,500.00		8,500.00
Roanoke River, N. C	31,506.76	30,000.00	30,000.00	61,506.76	8,500.00		53,006.76
Trent River, N. C	13.50	4,000.00	4,000.00	4,013.50	1,500.00		2,513.50
Yadkin River, N. C	4,500.00			4,500.00	2.88		4,497.12
Waccamaw River, N. C	800.00	6,000.00	6,000.00	6,800.00	2,800.00		4,000.00
Black River, N. C	1,500.00	2,000.00	2,000.00	3,500.00	1,500.00		2,000.00

Statement of appropriations under direction of the War Department for the fiscal year ended June 30, 1895, etc.—Continued.

Title of appropriation.	Balance July 1, 1894.	Appropriated July 1, 1894, to June 30, 1895.	Repayments July 1, 1894, to June 30, 1895.	Aggregate available.	Payments July 1, 1894, to June 30, 1895.	Carried to surplus fund June 30, 1895.	Balance June 30, 1895.
PUBLIC WORKS—continued.							
Harbors and rivers—Continued.							
Survey of waterways connecting Dismal Swamp Canal, Va., with sounds of North Carolina.....		\$5,000.00		\$5,000.00	\$500.00		\$4,500.00
Improving—							
Mingo Creek, S. C.....		4,000.00		4,000.00	1,000.00		3,000.00
Wappoo Cut, S. C.....		7,000.00		7,000.00	5,479.71		1,520.29
Ashley River, S. C.....	\$1.77			1.77	1.77		
Beaufort River, S. C.....		5,000.00		5,000.00	500.00		4,500.00
Congaree River, S. C.....		4,000.00		4,000.00	1,000.00		3,000.00
Great Pee Dee River, S. C.....	2,000.00	6,000.00		8,000.00	3,500.00		4,500.00
Little Pee Dee River, S. C.....	500.00	4,000.00		4,500.00	1,000.00		3,500.00
Salkahatchie River, S. C.....	1,762.24			1,762.24			1,762.24
Santee River, S. C.....	2,000.00	40,000.00		42,000.00	12,500.00		29,500.00
Wateree River, S. C.....	500.00	2,500.00		3,000.00	2,000.00		1,000.00
Jeckyl Creek, Ga.....		4,000.00		4,000.00	4,000.00		
Altamaha River, Ga.....		10,000.00		10,000.00	10,000.00		
Chattahoochee River, Ga.....		30,000.00		30,000.00	16,000.00		14,000.00
Coosa River, Ga. and Ala.....	70,018.27	220,000.00		290,018.27	160,000.00		130,018.27
Flint River, Ga.....		8,000.00		8,000.00	5,000.00		3,000.00
Ocmulgee River, Ga.....		10,000.00		10,000.00	7,000.00		3,000.00
Oconee River, Ga.....		10,000.00		10,000.00	5,500.00		4,500.00
Oostenaula and Coosawattee rivers, Ga.....	499.39			499.39			499.39
Savannah River, Ga.....		21,000.00		21,000.00	21,000.00		
Waterway between Savannah, Ga., and Fernandina, Fla.....		20,000.00		20,000.00	20,000.00		
Improving—							
La Grange Bayou, Fla.....	4,839.20			4,839.20			4,839.20
Sarasota Bay, Fla.....		2,500.00		2,500.00	2,500.00		
Volusia Bar, Fla.....		1,000.00		1,000.00	1,000.00		
Ocklawaha River, Fla.....		3,000.00		3,000.00	2,000.00		1,000.00
Apalachicola River, Fla.....		5,000.00		5,000.00	5,000.00		
Choctawhatchee River, Fla. and Ala.....	1,489.27	6,000.00		7,489.27	3,489.27		4,000.00
Caloosahatchee River, Fla.....		2,000.00		2,000.00	2,000.00		
Escambia and Conecuh rivers, Fla. and Ala.....		6,000.00		6,000.00	3,000.00		3,000.00
Manatee River, Fla.....		3,056.37		3,056.37		\$56.37	3,000.00
St. Johns River, Fla.....	202,000.00			202,000.00	202,000.00		
Suwanee River, Fla.....		3,000.00		3,000.00	1,000.00		2,000.00
Withlacoochee River, Fla.....		800.00	\$0.05	800.05			800.05
Indian River, Fla.....	12,000.00	20,000.00		32,000.00	12,000.00		20,000.00
Alabama River, Ala.....		50,000.00		50,000.00	18,000.00		32,000.00
Black Warrior River, Ala.....	65,000.00	37,500.00		102,500.00	65,000.00		37,500.00

Tennessee River, Ala.	22.06	170,000.00	300,000.00	90,000.00	25.06	240,000.00
Warrior and Tombigbee Rivers, Ala. and Miss.	180,000.00	240,000.00	300,000.00	40,000.00	25.06	240,000.00
Yazoo River, Miss.	60,000.00	240,000.00	300,000.00	40,000.00	25.06	240,000.00
Tobula Lake, Miss.	2,944.18	3,000.00	2,443.26	3,944.18	2,443.26	2,443.26
Steel-a Bayou, Miss.	2,443.26	3,000.00	2,443.26	3,000.00	2,443.26	2,443.26
Big Back River, Miss.	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00
Big Sandover River, Miss.	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00
Chickasaw River, Miss.	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00
Leaf River, Miss.	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00
Noxubee River, Miss.	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00
Pascagoula River, Miss.	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00
Pearl River, Miss.	12,500.00	12,500.00	12,500.00	12,500.00	12,500.00	12,500.00
Tallahatchee River, Miss.	300,793.11	3,330,000.00	3,330,000.00	2,518,822.97	3,173,400.14	3,173,400.14
Mississippi River, Miss.	3,000.00	10,000.00	3,000.00	6,000.00	4,000.00	4,000.00
Survey for canal connecting Lake Superior and Mississippi River	3,000.00	51,000.00	3,000.00	40,381.18	3,000.00	3,000.00
Improving Mississippi River from Minneapolis to Des Moines Rap-	3,000.00	51,000.00	3,000.00	40,381.18	3,000.00	3,000.00
ids, Minn., Iowa, Mo., Ill. and Wis.	3,000.00	51,000.00	3,000.00	40,381.18	3,000.00	3,000.00
Reservoirs at headwaters of Mississippi River	3,000.00	51,000.00	3,000.00	40,381.18	3,000.00	3,000.00
Gauging the waters of Lower Mississippi and its tributaries	3,000.00	51,000.00	3,000.00	40,381.18	3,000.00	3,000.00
Operating snag and dredge boats on Upper Mississippi River	3,000.00	51,000.00	3,000.00	40,381.18	3,000.00	3,000.00
Constructing jetties and other works at South Pass, Mississippi River	3,000.00	51,000.00	3,000.00	40,381.18	3,000.00	3,000.00
Examining and surveys at South Pass, Mississippi River	3,000.00	51,000.00	3,000.00	40,381.18	3,000.00	3,000.00
Improving Mississippi River from mouth of the Ohio River to Min-	3,000.00	51,000.00	3,000.00	40,381.18	3,000.00	3,000.00
neapolis, Minn.	3,000.00	51,000.00	3,000.00	40,381.18	3,000.00	3,000.00
Removing obstructions in Mississippi River	289,066.67	3,301,000.00	3,590,666.67	1,138,325.23	2,454,341.34	2,454,341.34
Mississippi River Commission	50.40	65,252.46	65,252.46	65,252.46	50.40	50.40
Improving—						
Mississippi River between mouths of Ohio and Illinois rivers,						
Ill. and Mo.	35,100.00	5,000.00	35,100.00	2,500.00	48,100.00	48,100.00
Boque Chitto, La.	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00
Bayou Vermilion, La.	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00
Bayou Benf, La.	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00
Bayou Bartholomew, La. and Ark.	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00
Bayou Courtableau, La.	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00
Bayou Black, La.	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00
Bayou D'Arbonne, La.	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00
Bayou Lafourche, La.	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00
Bayou Plaquemine, La.	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00
Bayou Teche, La.	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00
Connecting Bayou Teche with Grand Lake at Charenton, La.	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00
Improving—						
Amite River, La.	1,002.50	2,500.00	3,502.50	3,502.50	2,500.00	2,500.00
Calcasieu River and Pass, La.	45,827.00	90,000.00	135,827.00	73,063.00	62,864.00	62,864.00
Texas River, La.	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00
Ticketaw River, La.	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00
Tchoufouct River, La.	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00
Red River, La. and Ark.	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00
Mermentau River, La.	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00
Atchafalaya and Red rivers, La.	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00
Aransas Pass and Bay, Tex.	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00
Sabine Pass, Tex.	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00
Mouth of Brazos River, Tex.	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00

REPORT OF THE SECRETARY OF WAR.

Title of appropriation.	Balance July 1, 1894.	Appropriated July 1, 1894, to June 30, 1895.	Repayments July 1, 1894, to June 30, 1895.	Aggregate available.	Payments July 1, 1894, to June 30, 1895.	Carried to surplus fund June 30, 1895.	Balance June 30, 1895.
PUBLIC WORKS—continued.							
Harbors and rivers—Continued.							
Improving—Continued.							
Passo Cavallo, Tex.	\$35,368.78			\$35,368.78			\$35,368.78
Buffalo Bayou, Tex.		\$15,000.00		15,000.00	\$5,500.00		9,500.00
Cypress Bayou, Tex.		10,000.00		10,000.00			10,000.00
Trinity River, Tex.		5,000.00		5,000.00	2,000.00		3,000.00
Neches River, Tex.	4,157.84			4,157.84			4,157.84
Sabine River, Tex.		5,000.00		5,000.00			5,000.00
Removing obstructions in Arkansas River, Ark. and Kans.	5.46	20,000.00		20,005.46	15,505.46		4,500.00
Improving—							
Black River, Ark.	499.14	9,500.00		9,999.14	2,999.14		7,000.00
Fourche Le Fevre River, Ark.	892.75			892.75			892.75
St. Francis River, Ark.	263.34	83,000.00		83,263.34	78,163.06		5,100.28
Onachita River, Ark.	10,900.00	50,000.00		60,900.00	31,400.00		29,500.00
Red River, above Fulton, Ark.		3,500.00		3,500.00	2,500.00		1,000.00
Little Red River, Ark.		4.09		4.09	4.09		
Petit Jean River, Ark.	3.10			3.10	3.10		
Arkansas River, Ark.	12,383.34	250,000.00		262,383.34	101,820.35		160,562.99
White River, Ark.	4,833.55	52,000.00		56,833.55	10,283.55		46,550.00
Current River, Ark.		8,000.00		8,000.00	4,400.00		3,600.00
Clinch River, Tenn.	2,000.00	2,500.00		4,500.00			4,500.00
Big Hatchie River, Tenn.	3,000.00			3,000.00	3,000.00		
Cumberland River, above Nashville, Tenn.	263,000.00	200,000.00		463,000.00	239,000.00		224,000.00
Cumberland River, below Nashville, Tenn.	20,000.00	30,000.00		50,000.00	10,000.00		40,000.00
French Broad River, Tenn.		7,000.00		7,000.00	100.00		6,900.00
Forked Deer River, Tenn.	1,500.00			1,500.00	1,500.00		
Tennessee River above Chattanooga, Tenn.	3,000.00	50,000.00		53,000.00	9,600.00		43,400.00
Tennessee River below Chattanooga, Tenn., Ala., and Ky.	389,553.71	400,000.00		789,553.71	107,705.00		681,848.71
Obion River, Tenn.		7,500.00		7,500.00	4,000.00		3,500.00
Obeys River, Tenn.	17.86			17.86			17.86
South Fork Cumberland River, Ky.	32.98			32.98			32.98
Falls of the Ohio River, at Louisville, Ky.	2,000.00	80,000.00		82,000.00	82,000.00		
Kentucky River, Ky.	65,870.86	135,000.00		200,870.86			200,870.86
Rough River, Ky.	30,000.00	12,500.00		42,500.00	12,000.00		30,500.00
Tradewater River, Ky.	485.00			485.00			485.00
Green River, Ky.	47,000.00	130,000.00		177,000.00	26,711.88		150,288.12
Survey of canal connecting Lake Erie with Ohio River, Ohio.		20,000.00		20,000.00	14,000.00		6,000.00
Survey of the Ohio River below Pittsburgh, Pa., Ohio.	9,565.92			9,565.92			9,565.92
Improving—							
Ohio River below Pittsburgh, Pa., Ohio.	71,859.43	225,000.00		296,859.43	71,859.43		225,000.00

Ohio River, Ohio.....	162,420.02	250,000.00	412,420.02	96,000.10	316,419.92
Muskingum River, Ohio.....	13,117.53		13,117.53	1,117.53	12,000.00
Operating snag boats on Ohio River.....		24,994.94	24,994.94	24,994.94	
Examination of Portage Lake and Lake Superior ship canals, Mich.....	2,310.92		2,310.92		2,310.92
Improving—					
Detroit River, Mich.....	20,000.00	30,000.00	50,000.00		50,000.00
Hay Lake Channel, Sault Ste. Marie River, Mich.....	235,000.00	150,000.00	375,000.00	100,000.00	275,000.00
St. Clair Flats Canal, Mich.....	134.17		134.17		134.17
Black River, Mich.....		8,000.00	8,000.00	500.00	7,500.00
Clinton River, Mich.....		5,000.00	5,000.00		5,000.00
Menominee River, Mich. and Wis.....		6,000.00	6,000.00	4,000.00	2,000.00
Saginaw River, Mich.....	12,000.00	40,000.00	52,000.00	2,000.00	50,000.00
Rouge River, Mich.....		5,000.00	5,000.00		5,000.00
St. Joseph River, Mich.....		500.00	500.00		500.00
St. Marys River, Mich.....	1,630,000.00	783,865.00	2,413,865.00	625,000.00	1,788,865.00
St. Marys River and St. Marys Falls Canal, Mich.....	182.31		182.31		182.31
Thunder Bay River, Mich.....	2,000.00		2,000.00		2,000.00
Turning Basin, Rouge River, Mich.....	2,000.00		2,000.00		2,000.00
Improving waterway from Keweenaw Bay to Lake Superior, Mich.....		130,000.00	130,000.00	40,000.00	90,000.00
Sturgeon Bay and Lake Michigan Ship Canal, Mich.....		20,000.00	20,000.00	9,000.00	11,000.00
Improving—					
Chippewa River, Wis.....		10,000.00	10,000.00	7,001.03	2,998.97
St. Croix River, Wis. and Minn.....		4,000.00	4,000.00	3,000.00	1,000.00
Fox River, Wis.....	10,000.00	37,500.00	47,500.00	28,485.24	19,004.76
Damages by improvement of Fox and Wisconsin rivers, Wis.....		6,263.34	6,263.34	6,263.34	
Improving—					
Red River of the North, Minn. and Dak.....		15,000.00	15,000.00	11,007.61	3,992.39
White River, Ind.....	1,500.00	5,000.00	6,500.00	2,500.00	4,000.00
Wabash River, Ind. and Ill.....		20,000.00	20,000.00	12,000.00	8,000.00
Illinois and Mississippi Canal, Ill.....	486,850.50	190,000.00	676,850.50	306,850.00	370,000.50
Improving—					
Calumet River, Ill.....	12,000.00	45,000.00	57,000.00	40,500.00	16,500.00
Illinois River, Ill.....	5,000.00	35,000.00	40,000.00	25,000.00	15,000.00
Missouri River, from mouth to Sioux City, Iowa.....	16,037.88	1,500,000.00	1,516,037.88	601,500.00	914,537.88
Gasconade River, Mo.....		5,000.00	5,000.00	2,500.00	2,500.00
Little River, Mo.....		13	13	13	
Osage River, Mo. and Kans.....	89,400.00	46,000.00	135,400.00	10,600.00	124,800.00
St. Francis River, Mo.....	1,270.53	5,000.00	6,270.53	500.00	5,770.53
Missouri River, Mo.....	71,157.14		71,157.14	50,017.81	21,139.33
Missouri River, from Stubbs Ferry, Mont., to Sioux City, Iowa.....		110,000.00	110,000.00	55,005.99	54,994.01
Little Red River, Mo. and Ark.....		1.05	1.05	1.05	
Examination of Missouri River from Three Forks to Canyon Ferry, Mont.....	754.01		754.01		754.01
Improving—					
Yellowstone River, Mont. and Dak.....	11,720.00		11,720.00		11,720.00
Upper Snake River, Idaho.....		25,000.00	25,000.00	14,000.00	11,000.00
Napa River, Cal.....		4,000.00	4,000.00		4,000.00
Petaluma Creek, Cal.....		15,000.00	15,000.00		15,000.00
Sacramento and Feather rivers, Cal.....	59,000.00	115,000.00	174,000.00	30,769.44	143,230.56
San Joaquin River, Cal.....	17.06	50,000.00	50,017.06	20,000.00	30,017.06
Mokelumne River, Cal.....	2,500.00	2,500.00	5,000.00		5,000.00
Examination and survey of Columbia River, Oreg.....	3,169.49		3,169.49		3,169.49

REPORT OF THE SECRETARY OF WAR.

Statement of appropriations under direction of the War Department for the fiscal year ended June 30, 1895, etc.—Continued.

Title of appropriation.	Balance July 1, 1894.	Appropriated July 1, 1894, to June 30, 1895.	Repayments July 1, 1894, to June 30, 1895.	Aggregate available.	Payments July 1, 1894, to June 30, 1895.	Carried to surplus fund June 30, 1895.	Balance June 30, 1895.
PUBLIC WORKS—continued.							
Harbors and rivers—Continued.							
Improving—Continued.							
Paso Cavallo, Tex.	\$35,368.78			\$35,368.78			\$35,368.78
Buffalo Bayou, Tex.		\$15,000.00		15,000.00	\$5,500.00		9,500.00
Cypress Bayou, Tex.		10,000.00		10,000.00			10,000.00
Trinity River, Tex.		5,000.00		5,000.00	2,000.00		3,000.00
Neches River, Tex.	4,157.84			4,157.84			4,157.84
Sabine River, Tex.		5,000.00		5,000.00			5,000.00
Removing obstructions in Arkansas River, Ark. and Kans.	5.46	20,000.00		20,005.46	15,505.46		4,500.00
Improving—							
Black River, Ark.	499.14	9,500.00		9,999.14	2,999.14		7,000.00
Fourche Le Fevre River, Ark.	892.75			892.75			892.75
St. Francis River, Ark.	263.34	83,000.00		83,263.34	78,163.06		5,100.28
Onachita River, Ark.	10,900.00	50,000.00		60,900.00	31,400.00		29,500.00
Red River, above Fulton, Ark.		3,500.00		3,500.00	2,500.00		1,000.00
Little Red River, Ark.		4.09		4.09	4.09		
Petit Jean River, Ark.	3.10			3.10	3.10		
Arkansas River, Ark.	12,383.34	250,000.00		262,383.34	101,820.35		160,562.99
White River, Ark.	4,833.55	52,000.00		56,833.55	10,283.55		46,550.00
Current River, Ark.		8,000.00		8,000.00	4,400.00		3,600.00
Clinch River, Tenn.	2,000.00	2,500.00		4,500.00			4,500.00
Big Hatchie River, Tenn.	3,000.00			3,000.00	3,000.00		
Cumberland River, above Nashville, Tenn.	263,000.00	200,000.00		463,000.00	239,000.00		224,000.00
Cumberland River, below Nashville, Tenn.	20,000.00	30,000.00		50,000.00	10,000.00		40,000.00
French Broad River, Tenn.		7,000.00		7,000.00	100.00		6,900.00
Forked Deer River, Tenn.	1,500.00			1,500.00	1,500.00		
Tennessee River above Chattanooga, Tenn.	3,000.00	50,000.00		53,000.00	9,600.00		43,400.00
Tennessee River below Chattanooga, Tenn., Ala., and Ky.	389,553.71	400,000.00		789,553.71	107,705.00		681,848.71
Obion River, Tenn.		7,500.00		7,500.00	4,000.00		3,500.00
Obeys River, Tenn.	17.86			17.86			17.86
South Fork Cumberland River, Ky.	32.98			32.98			32.98
Falls of the Ohio River, at Louisville, Ky.	2,000.00	80,000.00		82,000.00	82,000.00		
Kentucky River, Ky.	65,870.86	135,000.00		200,870.86			200,870.86
Rough River, Ky.	30,000.00	12,500.00		42,500.00	12,000.00		30,500.00
Tradewater River, Ky.	485.00			485.00			485.00
Green River, Ky.	47,000.00	130,000.00		177,000.00	26,711.88		150,288.12
Survey of canal connecting Lake Erie with Ohio River, Ohio.		20,000.00		20,000.00	14,000.00		6,000.00
Survey of the Ohio River below Pittsburgh, Pa., Ohio.	9,565.92			9,565.92			9,565.92
Improving—							
Ohio River below Pittsburgh, Pa., Ohio.	71,859.43	225,000.00		296,859.43	71,859.43		225,000.00

Ohio River, Ohio.....	162,420.02	250,000.00	.....	412,420.02	96,000.10	.....	316,419.92
Muskingum River, Ohio.....	13,117.53	.....	.....	13,117.53	1,117.53	.....	12,000.00
Operating snag boats on Ohio River.....	.....	24,994.94	.....	24,994.94	24,994.94	.....	.....
Examination of Portage Lake and Lake Superior ship canals, Mich.....	2,310.92	.....	.....	2,310.92	.....	.....	2,310.92
Improving—							
Detroit River, Mich.....	20,000.00	30,000.00	.....	50,000.00	.....	.....	50,000.00
Hay Lake Channel, Sault Ste. Marie River, Mich.....	225,000.00	150,000.00	.....	375,000.00	100,000.00	.....	275,000.00
St. Clair Flats Canal, Mich.....	134.17	.....	.....	134.17	.....	.....	7,500.00
Black River, Mich.....	.....	8,000.00	.....	8,000.00	500.00	.....	5,000.00
Clinton River, Mich.....	.....	5,000.00	.....	5,000.00	.....	.....	2,000.00
Menomonee River, Mich. and Wis.....	.....	6,000.00	.....	6,000.00	4,000.00	.....	50,000.00
Saginaw River, Mich.....	12,000.00	40,000.00	.....	52,000.00	2,000.00	.....	5,000.00
Rouge River, Mich.....	.....	5,000.00	.....	5,000.00	.....	.....	500.00
St. Joseph River, Mich.....	.....	500.00	.....	500.00	.....	.....	.....
St. Marys River, Mich.....	1,630,000.00	783,865.00	.....	2,413,865.00	625,000.00	.....	1,788,865.00
St. Marys River and St. Marys Falls Canal, Mich.....	182.31	.....	.....	182.31	.....	.....	182.31
Thunder Bay River, Mich.....	2,000.00	.....	.....	2,000.00	.....	.....	2,000.00
Turning Basin, Rouge River, Mich.....	2,000.00	.....	.....	2,000.00	.....	.....	2,000.00
Improving waterway from Keweenaw Bay to Lake Superior, Mich.....	.....	130,000.00	.....	130,000.00	40,000.00	.....	90,000.00
Sturgeon Bay and Lake Michigan Ship Canal, Mich.....	.....	20,000.00	.....	20,000.00	9,000.00	.....	11,000.00
Improving—							
Chippewa River, Wis.....	.....	10,000.00	.....	10,000.00	7,001.03	.....	2,998.97
St. Croix River, Wis. and Minn.....	.....	4,000.00	.....	4,000.00	3,000.00	.....	1,000.00
Fox River, Wis.....	10,000.00	37,500.00	.....	47,500.00	28,485.24	.....	19,004.76
Damages by improvement of Fox and Wisconsin rivers, Wis.....	.....	6,263.34	.....	6,263.34	6,263.34	.....	.....
Improving—							
Red River of the North, Minn. and Dak.....	.....	15,000.00	.....	15,000.00	11,007.61	.....	3,992.39
White River, Ind.....	1,500.00	5,000.00	.....	6,500.00	2,500.00	.....	4,000.00
Wabash River, Ind. and Ill.....	.....	20,000.00	.....	20,000.00	12,000.00	.....	8,000.00
Illinois and Mississippi Canal, Ill.....	486,850.50	190,000.00	.....	676,850.50	306,850.00	.....	370,000.50
Improving—							
Calumet River, Ill.....	12,000.00	45,000.00	.....	57,000.00	40,500.00	.....	16,500.00
Illinois River, Ill.....	5,000.00	35,000.00	.....	40,000.00	25,000.00	.....	15,000.00
Missouri River, from mouth to Sioux City, Iowa.....	16,037.88	1,500,000.00	.....	1,516,037.88	601,500.00	.....	914,537.88
Gasconade River, Mo.....	.....	5,000.00	.....	5,000.00	2,500.00	.....	2,500.00
Little River, Mo.....	.....	13	.....	13	.....	.....	.....
Osage River, Mo. and Kans.....	89,400.00	46,000.00	.....	135,400.00	10,600.00	.....	124,800.00
St. Francis River, Mo.....	1,270.53	5,000.00	.....	6,270.53	500.00	.....	5,770.53
Missouri River, Mo.....	71,157.14	.....	.....	71,157.14	50,017.81	.....	21,139.33
Missouri River, from Stubbs Ferry, Mont., to Sioux City, Iowa.....	.....	110,000.00	.....	110,000.00	55,005.99	.....	54,994.01
Little Red River, Mo. and Ark.....	.....	1.05	.....	1.05	1.05	.....	.....
Examination of Missouri River from Three Forks to Canyon Ferry, Mont.....	754.01	.....	.....	754.01	.....	.....	754.01
Improving—							
Yellowstone River, Mont. and Dak.....	11,720.00	.....	.....	11,720.00	.....	.....	11,720.00
Upper Snake River, Idaho.....	.....	25,000.00	.....	25,000.00	14,000.00	.....	11,000.00
Napa River, Cal.....	.....	4,000.00	.....	4,000.00	.....	.....	4,000.00
Petaluma Creek, Cal.....	.....	15,000.00	.....	15,000.00	.....	.....	15,000.00
Sacramento and Feather rivers, Cal.....	59,000.00	115,000.00	.....	174,000.00	30,769.44	.....	143,230.56
San Joaquin River, Cal.....	17.06	50,000.00	.....	50,017.06	20,000.00	.....	30,017.06
Mokelumne River, Cal.....	2,500.00	2,500.00	.....	5,000.00	.....	.....	5,000.00
Examination and survey of Columbia River, Oreg.....	3,169.49	.....	.....	3,169.49	.....	.....	3,169.49

Commutation of rations to prisoners of war in rebel States and to soldiers on furlough.....	38,888.20	15,012.25		53,900.45	4,491.49	16,445.87	32,903.09
Collecting, drilling, and organizing volunteers.....		85.95		35.95	35.95		
Traveling expenses, First Michigan Cavalry.....		176.74		176.74	176.74		
Traveling expenses, California and Nevada volunteers.....		318.44		318.44	131.23		187.21
Extra pay to officers and men who served in the Mexican war.....		447.00		447.00	447.00		
Transportation of officers and their baggage.....		154.60		154.60	154.60		
Capture of Jefferson Davis.....	1,503.38			1,503.38			1,503.38
Pay of volunteers, Mexican war.....		11.91		11.91	11.91		
Total war claims of volunteers.....	637,109.08	575,463.41		1,212,572.49	568,996.30	259,766.13	883,810.06
Relief acts.							
Awards for quartermaster stores and commissary supplies taken by the Army in Tennessee.....	130.00			130.00			130.00
Stores and supplies taken by the Army (Bowman Act), act March 3, 1891.....		1,375.00		1,375.00	1,375.00		
Claims of officers and men of the Army for destruction of private property.....		2,203.04		2,203.04	2,203.04		
Claims of loyal citizens for supplies furnished during the rebellion.....				6,939.00			6,939.00
Claims for quartermaster stores and commissary supplies, act July 4, 1864.....	1,371.41	77.88		1,449.29	400.55		1,048.74
Relief of George H. Jewett.....		734.00		734.00	734.00		
Relief of Robert Travilla.....		75.60		75.60	75.60		
Relief of B. D. Greene.....		1,916.97		1,916.97	1,916.97		
Relief of Wetmore & Bro.....		220.00		220.00	220.00		
Relief of Samuel Collins.....		230.11		230.11	230.11		
Relief of Joseph and Eliza J. Redfern.....		2,738.40		2,738.40	2,738.40		
Relief of Col. F. C. Ainsworth.....		4,000.00		4,000.00	4,000.00		
Relief on account of the Ford's Theater disaster.....		125,000.00		125,000.00	110,520.83		14,479.17
Relief of Matthew S. Priest.....		375.00		375.00	375.00		
Relief of Washington College, Lexington, Va.....		17,484.00		17,484.00	17,484.00		
Relief of owners and crew of schooner Henry R. Tilton.....		10,518.94		10,518.94	10,518.94		
Relief of Witherby & Gaffney.....		5,414.28		5,414.28	5,414.28		
Total relief acts.....	8,440.41	172,363.22		180,803.63	158,206.72		22,596.91

RECAPITULATION.

Salaries, contingencies, etc.....	\$891,790.01	\$2,126,099.87		\$3,017,889.88	\$1,983,664.46	\$106,188.00	\$928,037.42
Military establishment, Army, and Military Academy.....	3,587,643.09	25,004,253.66		28,591,897.35	23,032,746.34	1,214,425.75	4,344,725.26
Public works.....	17,353,289.52	36,315,599.17	\$6,630.84	53,675,519.53	23,289,561.32	268.64	30,417,189.57
Miscellaneous objects.....	3,818,172.66	5,429,666.19	109,372.98	9,357,211.83	4,797,812.14	443,585.59	4,115,814.10
Total.....	25,650,895.88	68,875,618.89	116,003.82	94,642,518.59	53,103,784.26	1,764,467.98	39,805,766.35
Repayments in excess of payments.....					116,003.82		
Actual expenditures.....					52,987,780.44		

R E P O R T

OF THE

MAJOR-GENERAL COMMANDING THE ARMY.

REPORT
OF THE
MAJOR-GENERAL COMMANDING THE ARMY.

HEADQUARTERS OF THE ARMY,
Washington, D. C., November 5, 1895.

SIR: I have the honor to forward herewith the reports of the department commanders and the reports of the Adjutant-General and Inspector-General, United States Army, which give in detail the condition of the troops in the various departments and the movements of the military forces that have been made during the past year.

PERSONNEL OF THE ARMY.

These reports also show the personnel of the Army to be in excellent condition, well instructed, efficient, and attentive to all the duties required of them.

PUBLIC BUILDINGS.

The reports on the public buildings recently constructed indicate the improvements made in their construction. The buildings are of a more permanent character than those heretofore built, and are more commodious and better suited for the requirements of the military forces. The troops that have been so fortunate as to be located in them have more comfortable accommodations than they have ever had before. The reports concerning the balance of the public buildings, however, are not as satisfactory. In fact, many are out of repair, and liberal appropriations are required during the coming year to put them in habitable order.

CONDITION AND DISPOSITION OF THE INDIANS.

During the past few years we have been fortunate in being free from serious disaffection among the different tribes of Indians, and the outbreaks and depredations incident to Indian hostilities have been avoided during the last five years. While there has been no serious disturbance of the peace by the various Indian tribes within a very recent period, it is well to remember that only a few years have elapsed since the country was threatened by the most serious hostile conspiracy ever known in its history. While all the Indians are now peaceable and under control, this condition of affairs is largely attributable to the presence of bodies of troops placed at available points over the Western States and Territories, which keep the turbulent element

under restraint. Another reason is that a large number of the principal agencies, embracing some of the most restless and violent tribes of Indians, have been under the charge of judicious, experienced officers of the Army, who at a sacrifice of their own comfort and welfare have remained on duty at these remote stations and conducted the affairs of the Department with judgment, skill, and integrity. The humane, honest, and judicious management of such men as Capt. Jesse M. Lee, Majs. E. P. Ewers, G. M. Randall, Frank D. Baldwin, Capts. C. G. Penney, F. E. Pierce, A. E. Woodson, H. L. Scott, E. B. Pratt, and their colaborers in the past and at present is having most beneficial effect. Yearly the great educational and industrial Indian schools between Carlisle, Pa., and Forest Grove, Oreg., are returning to the different tribes young men and women who have been schooled in habits of industry and frugality, and their influence upon the various tribes is most beneficial. It is but a short time ago when the large and fierce tribes of Comanches and Kiowas were a terror to the Southwest. Now 1,100 of their children are in the nine great schools with 100 teachers, all under the care and control of Maj. Frank D. Baldwin, Fifth United States Infantry. These measures are among the best assurances of peace and progress for the future.

PERMANENT CENTRAL MILITARY STATIONS.

While it is economical and desirable to have the reserve forces of the Army at large posts near great centers of communication, I trust that no other influence than the necessities of the Government will prevail in the selection or maintenance of such permanent stations, which should be selected with the greatest care for strategic purposes. The location of troops where they are not absolutely required should be avoided, and the tendency to concentrate troops near the great cities should not be carried to the extent of depriving the remote settlements in the sparsely settled States and Territories of proper and adequate protection.

COAST DEFENSES.

The condition of the coast defenses is of the first importance, requiring decided and immediate action for its improvement. In my opinion it is well to give a plain statement of the condition of the coast defenses rather than to mislead our people into an unwarranted belief in their supposed security. The unguarded condition of our coast is perfectly well known at the seat of government of every first-class foreign Power, and I think it a duty to earnestly invite the attention of the honorable Secretary of War to this fact, that the true condition of affairs should be laid before the Government in order that the necessary measures may be taken for improvement. This is not a new subject, but one of vital importance to the nation. It has attracted the attention and earnest thought of military officials for many years. As commander of the Department of the Columbia, in my annual report of 1884, I called attention to this subject in the following language:

I would especially invite attention to the defenseless condition of the entrance to Puget Sound. In addition to the very great commercial interests of that great harbor, or inland sea, there are national interests requiring that this important district of country should receive the adequate protection of the General Government. Olympia, Tacoma, Seattle, Forts Ludlow, Madison, and Townsend, and the present terminus of the Northern Pacific Railroad on Puget Sound are places of great commercial interest. The Government has reserved important sites for batteries and defensive works at the entrance of Puget Sound, and the most valuable of these, in my opinion, should be occupied and put in proper condition for use.

Since the above was written, in addition to the Northern Pacific, the Oregon and California Coast Line, the Oregon Short Line, the Great Northern, and the branch connecting with the Canadian Pacific have made their terminus on Puget Sound, all constituting the avenues of export for the products of that Northwest country. Up to the present time not a single gun has been placed in position for the protection of Puget Sound.

The guns in position for the defense of the entrance of the Columbia River, the approach to the cities of Astoria and Portland, Oreg., are obsolete and of little value.

Some progress has been made in the defenses of the harbor of San Francisco, Cal., and a few modern guns of high power and rifled mortars are already in position. These, however, constitute but a small part of the general plan for the defense of the principal harbor on the Pacific Coast. The condition of San Diego, Cal., is the same as that of Puget Sound—entirely at the mercy of any foreign fleet.

While in command of the Division of the Pacific, in my annual report of 1889, I referred again to this important subject in the following words:

PACIFIC COAST DEFENSES.

The most important subject to the Pacific coast States, and one that should receive the earnest and immediate attention of the Government, is the defense of the Pacific coast. It is of such vital national importance that I regard it neither wise nor patriotic to longer delay its improvement. We have not reached that perfection of human society in which it is safe to trust ourselves in a defenseless condition. It is but eighteen years since one Government of Europe forced an indemnity of \$1,000,000,000 from another, and it to-day is compelling a people of one section of country to live under a flag and Government which they regard with intense hatred. The people of many civilized nations are sustaining systems of government that were it not for the arbitrary power of arms would be entirely different. A large portion of the human race is living under the arbitrary power of foreign Governments simply by the force of arms. As the entire system of warfare has changed within a generation, we can not rely upon the achievements of our fathers or the boasting of our own people to defend our political rights, property, or lives. The condition of this coast is one to tempt the avarice and cupidity of any fourth-rate naval Power on the globe, and that it could be occupied by any first-class naval Power is a fact apparent to any thoughtful, well-informed citizen. Such occupation would not only be of a temporary character, but would be for a term of years, in which all business interests would be paralyzed and all values of property seriously depreciated, and the wealth accumulated during generations by economy and industry be destroyed in a few weeks' time. It is but a few years since the ports of a large section of our country were so thoroughly blockaded as to cripple the military power of 9,000,000 of people. No competent judge will deny the fact that it is equally possible to blockade every important port of our country in the same way within ninety days and that it would take many years to make a successful resistance against such a power. In fact, it has been estimated by competent authority that our country might be placed under an indemnity to the extent of five billions in money.

On this coast line there are more than 500,000,000 of dollars involved of destructible property within the reach of naval vessels. The indemnity need not necessarily be in the shape of money, but the staple products of the country would be just as valuable to any foreign nation, and should one-half of it be used to reduce their national debt and the other to double or quadruple their naval power, the time of our successful resistance when once forced out of deep water by such a power would be at least indefinite, as there are several strategic positions on the Pacific coast which if captured and reversed could be used against us and rendered as impregnable as Gibraltar. Such a disaster might not be fatal to our Republic, but it would be a most serious embarrassment. Although the Government and people of this country have expended millions of money in the construction of four great transcontinental railways, partly to protect and strengthen our military power, they would be useless, even could they transport a million of brave, patriotic men, without the appliances to cope with the modern engines of war. With all our boasted intelligence, pride of institutions, inventive genius, and superiority in many of the arts, industries, and commercial enterprises, we are as far behind in the modern appliances of war as the people of China or Japan. Military and naval officers have reported and

recommended for years the improvements in the condition of the defenses of this nation; legislatures, boards of trade, chambers of commerce, and commercial conventions have petitioned and prayed the General Government to take action in this matter, and yet the wretched defenseless condition of the coast has continued to the present moment.

This year I have ordered a board of officers to examine the entire coast, and its present defenseless condition is shown in their report, marked Appendix H, to which I would respectfully invite especial attention.

It is embarrassing for a military officer to acknowledge this condition of affairs and to record these facts. Yet he would do less than his duty to his country did he not endeavor to bring the truth before the Government in order that it should be fully apprised of the true condition of affairs.

Such was the condition six years ago when that annual report was made, and such is the condition to day, with the exception of the slight progress made in the defenses of the harbor of San Francisco. I have personally examined all the positions mentioned above, from the Straits of Juan de Fuca to the Mexican boundary, and can not too earnestly recommend action at the earliest date for their proper equipment and armament.

On the line of the Gulf of Mexico and the Atlantic coast the important cities of Galveston, Tex.; New Orleans, La.; Mobile, Ala.; Key West, Fla.; Savannah, Ga.; Charleston, S. C.; Wilmington, N. C.; Washington, Baltimore, and Philadelphia are entirely without modern guns. The few guns that are in position are obsolete and of little value, and it can not be expected that any one of these batteries could stop a single first-class ship of war, much less a fleet equipped with the modern appliances of war.

Some progress has been made in the defenses of New York, the planting of batteries of high-power guns and rifled steel mortars, but, like San Francisco, only a small part of what is contemplated in the general plan for the proper defense of the metropolis of the nation has been accomplished.

The cities on the coast north of New York are in similar condition to those south of it, with one exception. Modern high-power guns and breech-loading steel mortars have been constructed, and are now at the proving grounds, and some have been shipped to their destination. Carriages for the same are in process of construction, and emplacements for guns and mortars are in some cases under construction to a limited extent.

The importance of land batteries has been demonstrated in all modern wars, and especially so in the Crimean war and the great war in this country between 1861 and 1865. A marked illustration of this was in the defense of the harbor of Charleston, S. C., by the batteries at Moultrie and Sumter, which kept at bay the most powerful navy of the world for four years.

There are two delusions which seem to be misleading in this country. One is that torpedoes can be depended upon to protect the accumulated wealth of three hundred years that is located along our seaboard and navigable rivers, and the second is that our coast of 4,000 miles in extent can be defended by a navy. Torpedo plants would be useless without batteries to protect them, and in the entrances to several of the harbors the water is of such depth as to make it impossible to utilize torpedoes. At high water swift, light-draft gunboats and torpedo boats can pass over the torpedo mines without danger. It is useless to suppose that a small navy like ours could protect such an extensive coast, embracing many of the principal cities of the country and a large portion of the wealth. The recent maneuvers in England demonstrated that even with the powerful navy of the British Empire it would be impossible

for their navy to defend the coast of that island against a foreign fleet. In case of war our Navy would have ample field for service in foreign ports and against foreign commerce, but the main reliance of the country would have to be upon its land defenses. If these were not properly manned, war with any first-class naval Power would result in a sacrifice of many of our most important cities, and ten days would be ample time to complete their destruction. The accuracy of fire of batteries mounted on solid masonry is vastly superior to that of batteries on the deck of a ship subject to the action of the sea, and the economy of placing such batteries on land as against floating batteries is too apparent to admit of discussion.

In thus presenting the actual condition and necessities of our coast lines I do not anticipate war in the near future. Yet, as it requires years of time to construct modern weapons of war, it would be unwise to disregard the lessons of history. In the history of a hundred wars within the last two hundred years there has been less than 10 per cent where any formal warning or declaration of war has been given preceding actual hostilities.

We have seen within the last two years one of the richest and most populous nations of the globe humiliated and subjugated by another only one-tenth its size. It can not be said that the people of one country was in a very marked degree different from those of the other. Yet the smaller nation had paid more attention to the modern appliances of war than the stronger, the greater nation making the fatal mistake of relying upon its vastly superior numbers for its supposed safety. This great achievement was accomplished in the eight important battles fought between the Japanese and Chinese armies, with an aggregate loss to the Japanese of only 689 men killed—not as many as occurred upon a single field in our great war lasting for four years. This illustrates one fact that with long range and destructive weapons of war the principles of strategy have not changed, while the methods of tactics have been modified, and battles are now fought at greater distances between contending forces, and the list of mortality is proportionately smaller. Yet the results of battles and the fate of nations are the same as when battles were fought with short swords and spears.

In our own country for nearly two hundred years there has never been a period of thirty-five years in which it has not been involved in war. The best guarantee for and assurance of continued peace is such a condition of our military forces as will give us reasonable protection from foreign enemies as well as from violent internal dissensions and revolutions which have occurred, and undoubtedly will occur, in the history of every nation.

I can not, therefore, too earnestly recommend that ample appropriation be made for the construction as soon as practicable of all the high-power guns and mortars, with the emplacements, mortar beds, barbette and disappearing carriages, called for in the general plan of the Board of Ordnance and Fortifications and also the Board of Engineers, as well as in the recommendations of the Chiefs of Engineers and Ordnance on this subject. I am aware that the Government is required to make large appropriations for civil and military purposes, and that the expense of constructing modern high-power guns, mortars, gun carriages, and emplacements is very great. To meet these requirements I would recommend that to wholly or in part provide for the necessary appropriations called for in this estimate authority be granted for the sale of such military reservations as have been abandoned and are no longer of any strategic value. I think it would be advisable

that the selection of such reservations be made by the Board of Ordnance and Fortifications or a similar board of experienced officers, with the approval of the honorable Secretary of War, and that such abandoned reservations be judiciously disposed of and such funds resulting be used, as far as practicable, in payment for guns and gun carriages already contracted for and for which the Government has obligated itself and for such as may be required in the future. To this end I earnestly recommend the construction of suitable buildings for the necessary garrisons to man the guns and mortars already in position and those to be constructed and placed in position.

It is perfectly well known that there is absolute necessity for the increase of the artillery arm of the service for the purpose of manning, protecting, and caring for these valuable weapons of war. It is a branch of science that can not possibly be learned in a short time, but requires years of careful study and practice to enable men to become efficient.

As the Government has now at great expense established mortar batteries and high-power guns at Fort Hancock, New York Harbor, I renew my recommendation made last May that barracks and quarters be constructed at that place for a suitable garrison for the care, protection, and manning of batteries now in position at that point.

In addition to the Artillery School at Fort Monroe, I recommend that details be made from all the artillery regiments, especially from among the subaltern officers, to be stationed at Fort Hancock, or the adjacent forts, Hamilton and Wadsworth, and Governors Island, where they can go down every day to Fort Hancock and witness the testing of the high-power guns and mortars. They will in this way have more practical experience with modern guns and see more actual practice in sixty days than they could possibly see at all the other artillery stations in the country in many years. It is an opportunity which, in my judgment, should not be lost, and would be exceedingly valuable to those officers in the future. I also recommend that during the summer months the corps of cadets at West Point have the opportunity of at least two weeks' experience and observation in the working of these modern appliances of war.

INFANTRY.

Concerning the infantry arm of the service, I recommend that the three-battalion organization be adopted for the infantry, and that as far as practicable only regimental posts be constructed for the accommodation of infantry garrisons, as I consider it essential to their discipline and instruction that companies of the regiments should be together rather than be at isolated stations.

CAVALRY.

The difficulty of concentrating cavalry regiments has been very great heretofore on account of the necessity of their being scattered to protect settlements and mining camps in the Western country. Yet there should be at least one full regiment of cavalry assembled at Fort Riley, Kans., or some station east of the Rocky Mountains, and one large cavalry station west of the Rocky Mountains. I see no necessity of having a cavalry station at both Leavenworth and Fort Riley, Kans. I therefore recommend that the light artillery be transferred from Fort Riley to Fort Leavenworth, and the former place made available for an entire

regiment of mounted troops. During the summer months, as the distance is but 131 miles, the three arms of the service can be assembled at Riley or Leavenworth or one large camp in the Indian Territory for field maneuvers and encampments to such extent as might be deemed advisable.

BICYCLE AND MOTOR WAGONS.

As very great progress is being made in European countries in the use of the bicycle and motor wagons, and as both have been found practicable in this country and would certainly be utilized to a great extent in case of war, I recommend that a force equal to one full regiment of twelve companies be equipped with bicycles and motor wagons and their utility thoroughly demonstrated by actual service. There are more than 4,000 officers and men in the Army who are able to use the bicycle as a means of transportation. The officers and men for such a regiment to be so equipped should be carefully selected from the most efficient and skillful in the use of this modern appliance, and I recommend that authority for such transfer be granted with as little delay as practicable.

The bicycle has been found exceedingly useful in reconnoitering different sections of the country, and it is my purpose to use to some extent troops stationed at different posts to make practice marches and reconnoissances, and thereby obtain a thorough knowledge of their own country, especially the topographical features, condition of roads, sources of supplies, and all information of military importance.

GENERAL CONDITION OF THE ARMY.

As to the general condition of the Army, I would invite attention to the fact that in the reorganization of the Army in 1866 the available strength was 51,605; in 1869, 35,036; in 1870, 32,788, and during the great panic following 1873 it was reduced in 1874 to 25,000. At that time the nation was burdened with a great debt, and its financial condition was a problem then unsolved.

The Army has been kept at that standard for twenty-one years, and is the same to-day as when we had 30,000,000 less population than we have now, with all our increasing wealth during that time. There is no more significance in the number "25,000" than in any other number that might by chance be selected. The Army should grow as the nation grows. There is no reason why it should become crystallized. It is one of the pillars of the nation. It is the main dependence of the civil government, that guarantees protection to life and property, and is the main reliance of the nation in case of war with any foreign Power.

In my judgment it would be wise and patriotic to fix a reasonable standard by which the strength and numbers of the Army would be conditioned upon the ever-increasing wealth, population, and requirements of the nation. When such a standard is established the census of 1890 should determine the maximum and minimum limits of the Army during the decade following; the census of 1900 determine the strength of the Army for the following ten years, and the same way for 1910. We have now approximately 75,000,000 of people, and in a short time it will amount to 100,000,000—in the lifetime of many now living 200,000,000. I believe a safe standard for such a Republic would be the minimum of 1 soldier to every 2,000 population and the maximum 1 soldier to every 1,000 population; the increase and decrease within those limits to be determined by the necessities of the nation in the

interest of judicious economy and public safety. I believe that the Army should be one great school of patriotism in which the young men of the country could enter, and thereby render good service to the nation and at the same time be so benefited as to enable them to return to civil life better citizens and experienced soldiers; or, should they desire to continue in the service, they could render their country valuable service in times of peace or war.

Ten years ago, in my annual report of 1885, I called attention to this subject, as follows:

One of the principal causes of the great number of desertions in the Army is, in my judgment, attributable to the present defective and very expensive system of recruiting, and I recommend that it be discontinued. The position of the soldier should be made such as intelligent Americans would seek, rather than desert. Sufficient extra compensation should be made to induce men to enlist in the various regiments and companies. The officers would then know the kind of men they were getting, and a less number would come from the lower wards of our great cities, and the Government would be spared the great expense of transporting them from 100 to 3,000 miles to their stations. The enlistment should be for three years and reenlistment for one year. In this way many of the best soldiers would continue in service and the worthless characters be discharged. The penalty for intended and actual desertion should be imprisonment for a definite term of years.

One source of disappointment and discouragement to the ambitious and intelligent soldier is the impossibility of obtaining promotion above the grade of that of an enlisted man. As there are but few vacancies other than those filled by graduates from the Military Academy at West Point, it would be well to allow ambitious young men, after five years' service, to go before an examining board, and should their records as soldiers be found perfect and they be able to pass a rigid examination, then they should be entitled to their discharge with the rank of second lieutenant. It would be a material and social advantage to many worthy young men and would disseminate military knowledge and experience in the care of troops among the people of the States and Territories.

Three of the above recommendations have since been adopted in the military service, and I earnestly call attention to the last as most important, and renew my recommendation in that respect.

The condition and requirements of a soldier are now entirely different from what they were a hundred years ago and there is no necessity for enlisting any except young men whose mental, moral, and physical condition is of the highest order. The first requirement of a soldier is that he should be a good citizen—that is, imbued with the true principles that make perfect citizenship in this country. On entering the service he takes an oath to “bear true faith and allegiance to the United States of America,” and hence it is important that he fully understand the principles of our Government. This should be one of the first and essential elements of his instruction. He should have the opportunity to study and become thoroughly informed as to the history and development of free ideas in our Government and the history of our nation. He should understand fully the principles of the Constitution and the laws based upon it and the vital importance of sustaining the supremacy of the civil law. From the time he enlists until his discharge, or at least for a term of years, a portion of the time should be devoted to acquiring such knowledge as is essential to a perfect soldier and intelligent, patriotic citizen. While this is being done the military instruction teaches him habits of industry, regularity, sobriety, respect for his superiors, and how not only to properly care for and control himself but to care for and control others, which are qualifications of very great importance should he remain in the military service or return to civil life.

A very small number of noncommissioned officers are now promoted to the grade of officer after two years' service. There have been but 87 so promoted during the last ten years. Owing to the very limited

number of vacancies to which soldiers can be promoted, I would recommend that where a soldier has rendered honorable and meritorious service for five years, and desires to leave it, he should be given an opportunity of going before a board of competent officers and, after passing a thorough examination, he should be commissioned a second lieutenant and given his discharge. In this way he will have gained a title and an honorable record. He will have saved a small sum of money and acquired a knowledge which would be valuable in any community. Such men would be a benefit to any community, and constitute a valuable reserve for the Government in case of war. They would be very useful should they become members of the National Guard, and I believe that such a recognition would be but a just reward for five years' faithful service, provided they qualified themselves as herein indicated and possessed all the requirements essential to be an officer of the Army.

In my opinion, the pay of noncommissioned officers could be judiciously increased, especially that of first sergeants, considering the amount of responsibility required of that position.

Concerning the officers of the Army, it is, in my judgment, desirable to adopt some system of improvement regarding the advancement not only in rank but in qualification for the service that may be required of them. I believe there should be such rotation in duty as will give all the officers a thorough knowledge of all departments of the service except the Medical Department; that their experience, instruction, and training should be such as to qualify them eventually to become general officers should the condition of the service require them in that capacity. It is important that we should educate men that will be able to organize, discipline, instruct, mobilize, and command regiments, brigades, corps, and armies, and men skilled in any one particular branch of the Army and devoting their whole lives to that service are not as well equipped as they should be to organize and control an entire force, be it a division or an army, composed of all its branches and elements.

That promotion during the last thirty years has been to some extent discouraging, if not disheartening, is a fact well known. The artillery have been obliged to occupy, during much of that time, disagreeable, expensive, and unhealthy stations; and many of the men whose names were distinguished and had rendered invaluable service to the Government thirty years ago are now found on the list of captains, and in some instances lieutenants. During that time the infantry and cavalry have been performing invaluable service on the frontier and have made our entire Western country safe and secure for the millions of people who are now enjoying its benefits, and while they have endured all the hardships and privations and dangers incident to such service, many of the officers who commanded regiments, posts, and brigades in our civil war are now on the list of captains, with very little prospect of immediate promotion. Such a system, in my judgment, does not render the service as healthful and efficient as should be desired, and an improvement in that respect is, in my opinion, necessary and advisable for the best interests of the service.

In my judgment, officers below the grade of colonel who have served thirty years and who also rendered distinguished and valuable service in the field during our great war should be permitted to retire with increased rank of one grade higher than that they now hold.

Very respectfully,

NELSON A. MILES,
Major-General, Commanding.

Hon. DANIEL S. LAMONT,
Secretary of War.

REPORTS
TO THE
MAJOR-GENERAL COMMANDING THE ARMY.

REPORT OF THE ADJUTANT-GENERAL.

HEADQUARTERS OF THE ARMY,
ADJUTANT-GENERAL'S OFFICE,
Washington, October 7, 1895.

Major-General NELSON A. MILES,
Commanding the Army.

SIR:

I have the honor to submit the annual returns of the Army:

- A.—Showing the actual strength of the Army, June 30, 1895.
- B.—Showing position and distribution of the troops, by departments, taken from the latest returns on file in the Adjutant-General's Office.
- C.—Geographical departments and posts, with distribution of troops, post-offices, telegraph stations, and nearest railroad stations and boat landings.
- D.—Statement showing gain and loss in the enlisted strength of the Army during the fiscal year ended June 30, 1895.

The number of enlisted men in service June 30, 1895, receiving increased pay under the acts of Congress of August 4, 1854, and May 15, 1872, was as follows:

Five years' continuous service (\$2 per month)	3,344
Ten years' continuous service (\$3 per month)	2,067
Fifteen years' continuous service (\$4 per month)	1,050
Twenty years' continuous service (\$5 per month)	620
Twenty-five years' continuous service (\$6 per month)	338
Thirty years' continuous service (\$7 per month)	9
Thirty-five years' continuous service (\$8 per month)	4
Forty years' continuous service (\$9 per month)	1
Reenlisted pay	628
Total	8,061

POST LYCEUMS.

The reports from department commanders evidence commendable progress in the course of instruction and that, generally, officers have followed it during the year, with zeal in professional study and research.

DETACHED SERVICE.

An important and delicate administrative duty, devolving upon superior authority, to limit the number of line officers on detached service to the lowest possible number, with due regard to certain essential duties required for the general welfare of the military establishment of the country, demands thoughtful consideration of the weight of the various interests requiring details, and the paramount necessity of keeping the troops properly officered. The following table exhibits a comparative statement of the number of officers on duty with their respective commands and of those on detached service at the periods stated:

	January, 1893.	April, 1894.	September, 1895.
Officers on duty with regiments.....	1, 013	1, 095	1, 229
On detached duty:			
In Washington, D. C.....	22	18	17
At department headquarters.....	45	43	18
At Infantry and Cavalry School.....	43	54	48
At Artillery School.....	8	5	7
At Engineer School.....	5	6	3
At United States Military Academy.....	40	43	39
At Military Prison.....	5	5	.....
At Arsenal (under instruction).....	7	9	2
College duty.....	75	97	99
Acting Indian agents.....	5	20	19
At foreign legations.....	4	6	6
With State militia.....	17	21	29
On recruiting service.....	98	71	33
Miscellaneous.....	30	9	22
Total detached duty.....	404	407	342

THE LINE OF THE ARMY.

After the close of the late war, in 1866, the strength of the Army was established at 51,605 men. This was reduced in 1869 to 35,036, and again in 1870 to 30,000 men. From that time till 1874 it remained as thus fixed. For the fiscal years ending June 30, 1875 and 1876, Congress appropriated for only 25,000 men. In 1876 the strength of the Army was temporarily increased 2,500 men on account of Indian warfare in the Northwest following the Custer massacre, with the proviso that it should be reduced at the cessation of hostilities. This reduction was made in 1877. From that time till 1879 appropriations were for 25,000 men. In 1879 the strength of the Army, nominally 30,000 men since 1870, was fixed definitely by act of Congress at 25,000, unless otherwise authorized by law. With the extra-duty men, the bands, the sick, the absent, and the unfilled vacancies, the actual strength of the Army is some thousands below that which is established and believed by the people to be the number ready for armed duty.

As represented in my last report, this paucity of numbers entails great cost of transportation, in an emergency, for the concentration of an adequate force at a given point.

I renew my recommendation of last year that the enlisted strength of the Army be established at 30,000 men, as fixed by the act of July 15, 1870, so that we may be assured at all times of having 25,000 men on the fighting line.

As the yearly gain to the strength of the Army is composed of enlistments and reenlistments, the loss to the strength may be divided into

two great classes—one uncontrollable, the other subject to variations that may be modified or eliminated to a large extent by wise administration and legislative measures.

The first class embraces discharges from the Army for the following causes: Expiration of term of service, disability, retirement and death. The composition of the second class is shown in the table herewith compiled from returns of the Army for the years 1891 to 1895, inclusive:

Cause.	1891.	1892.	1893.	1894.	1895.
Purchase.....	718	880	1,073	600	459
Fraudulent enlistment.....	349	394	301	253	147
Favor.....	124	100	112	159	338
Veterans.....	324	206	134	85	94
Minority.....	132	185	104	6	3
After three years' service and three months' furlough.....	939	1,452	1,573	1,278	2,635
Desertions.....	1,503	1,382	1,682	1,074	1,165
Total.....	4,089	4,599	4,979	3,455	4,841

It will be noted that the number of discharges on account of minority—a source of great vexation and loss in the past—is rapidly diminishing. This is due undoubtedly to the act of July 27, 1892, providing for the punishment by court-martial of men who fraudulently enlist and to the order of the Secretary of War prohibiting the enlistment of minors. As the concealment of the true age of the applicant for enlistment constitutes a fraudulent enlistment, some of the discharges for minority during 1894 and 1895 were reported under the head of “Fraudulent enlistment.” It has been ascertained, however, that the total number of such discharges was about 20 for the year ended June 30, 1894, and does not exceed 10 during the past year.

The very large increase in the number of men who secured their discharges from the service under the provisions of the act of June 16, 1890, is proof of the wisdom of the act of August 1, 1894, making the term of service three years.

The number of native-born soldiers who elect to reenlist is steadily on the increase. The number of reenlistments of this class was 614 in 1893, 797 in 1894, and 1,040 during the past year.

DESERTIONS.

The number of desertions in the Army during the past year was 1,165, an increase of 91 over the number reported for the preceding year, and a fraction over 4 per cent of the enlisted strength of the Army.

The cause of desertion is not altogether in the service; it must be looked for partly outside of it. Many young soldiers do not like the necessary restraint of military life and long for home and its surroundings; while the revival of business tempts others who enlisted when out of employment to return to their proper avocations in civil life. Desertions will only cease when restless men fail to enlist and the discontented in the ranks fully realize that the inconveniences and annoyances which they find in a soldier's life are far preferable to the loss of civil rights under section 1998 of the Revised Statutes and the constant fear and danger of apprehension, swiftly followed by adequate punishment.

POST EXCHANGES.

The post exchange continues to meet fully the expectations of its most ardent advocates, and has successfully superseded the old trader's store. The aggregate receipts during the past year were \$1,518,455.94; the expenses \$1,189,233.27; and the net profits \$329,222.67. Of this amount \$255,836.84 was returned to the members as dividends and the balance of \$73,385.83 was retained on hand June 30, 1895, to meet anticipated expenses. The net value of the 73 exchanges now in operation in the Army was, on June 30, 1895, \$178,575.94.

The proportion of receipts at the canteen, i. e., the beer counter, as against the general store is rapidly diminishing, so that while a few years ago it was fully 75 per cent, it is now less than 40. A number of exchanges have fitted up libraries and gymnasiums, have purchased the paraphernalia for ball clubs and out-of-door athletics, and have given prizes for athletic sports.

The efforts of the Department during the year have been largely devoted to the correction of defects that were necessarily inseparable from a project that at the beginning was somewhat experimental. For obvious reasons, both economical and disciplinary, it was necessary that for a time these exchanges should be operated by enlisted men. They have been withdrawn wherever civilians could be substituted. On June 30, 1895, there were 128 civilians employed as stewards, bookkeepers and attendants, at a monthly compensation of \$4,535.66, and 145 enlisted men who received from the post exchanges extra-duty pay. The number of enlisted men employed varies from time to time, according to the requirements at the small posts. It averages about 100 men. Five years ago the number of enlisted men thus employed exceeded 500.

Based upon the experience of the six years during which the exchange has been in operation, and with a due regard to the objections and suggestions of commanding officers and exchange managers throughout the Army, amended regulations for the government of the institution have recently been promulgated, which, it is believed, will greatly simplify its administration, leave its control almost wholly in the hands of local authorities, and relieve the War Department of all business, save the merest supervision, pertaining to it.

MESSES FOR GENERAL PRISONERS.

General prisoners now undergo, at designated posts, the sentences awarded for their misdeeds. At posts where there are no consolidated messes, the labor of receiving the rations allotted to these offenders and the preparation of their meals fall upon the company messes. A due regard for the honor of the service requires that the faithful soldier in the ranks shall not be degraded in his own eyes or in those of the general public by any relation, other than guard duty, however remote, with men convicted of, and undergoing condign punishment for, grave offenses against the military code.

It is, therefore, recommended, that at posts where there are no consolidated messes, separate messes be established for the general prisoners. In the guard-houses as now constructed by the Quartermaster's Department, ample accommodations for kitchens for the purpose are to be found in the basements of the buildings.

LAUNDRIES.

The importance of this subject to the enlisted man leads me to renew the recommendation made in my last report that post laundries be established, under proper management, at all permanent posts.

The list of articles of clothing and of bed furniture issued to the men under improved conditions of the service involves, of necessity, increased expenditure for washing white blouses, trousers, linen collars, sheets and pillow cases. Charges for this purpose should, in justice, be reduced to the minimum. The Government, in exacting from the soldier that his clothing and bed furniture be always kept in clean and neat condition, should afford him all reasonable facilities for the purpose at the least cost to himself.

CONSOLIDATED MESSES.

The consolidated or post mess was, at first, established at each of the three recruiting depots then in existence. It has since been introduced at a number of posts and, while it does not lack advocates, the majority of officers do not look upon it with favor. It was intended to provide all the enlisted men at the post with good food, prepared in one place and with increased economy in expenditures. In operation, it is found that more or less dissatisfaction results from divers causes.

Complaint is made that the meals, wheeled in cars from the kitchen to remote parts in the dining room, are often served cold and never hot, and that everything, cooked in large quantities, tastes alike. The soldier complains to his captain of his food; the captain reports it to the commanding officer; the commanding officer calls up the officer, generally a lieutenant, in charge of the mess; he sends for his steward; the steward represents that the soldier is a grumbler and that his grievance is without foundation; this statement is sent to the commanding officer; he informs the captain that the complaint is frivolous; the captain tells the soldier that he has sought redress without success; and the soldier loses confidence in the captain who can not protect him. To make such a mess successful, the officer in charge must be possessed of qualifications that are to be found only in the most accomplished professional caterers. A company in barracks taking its meals at the consolidated mess, is in the condition of a family that occupies a dwelling house and goes out to a hotel for breakfast, dinner and supper.

In our service, the company and not the regiment, is the unit. The company is the family and should have its own mess, under the eyes of its own officers. It then has its equipment and its cooks always ready for the field. Cooking in the field differs from cooking by steam in the consolidated mess. The company from the consolidated mess goes into the field with its untried cooks and its noncommissioned officers unaccustomed to handling and distributing rations; and so it comes about that in the first days of the march, at the very time that the men are changing from the habit of the garrison to that of the field, and should be well nourished, they are served with ill-cooked, indigestible food, and find their way upon the sick report.

I am of the opinion that no more general messes should be established.

CLERICAL DUTY IN THE ARMY.

The custom of providing, by detail of men from the Army, for the necessary and important clerical service at the Headquarters of the Army as well as at those of the several geographical departments was

superseded in 1886 by the formation of a corps of men subject only to assignment for clerical and messenger duty at these several headquarters, and the clerks were divided into three grades or classes; those of the highest receiving \$1,200 per annum; those in the intermediate \$1,100; and those in the lowest \$1,000, while the pay of the messengers was fixed at \$60 per month. This general-service force was abolished last year by the act of August 6, 1894, which transferred the entire corps of clerks and messengers to the civil list and placed it subject to the civil-service rules, in the same manner as the clerical and messenger force employed in the several Executive Departments of the Government in the city of Washington.

Prior to the legislative action of 1886, the general-service clerks and messengers were entitled, in addition to the pay and allowances of their respective grades, to retirement and other privileges, such as medical attendance and the right to purchase from the Subsistence and Quartermaster's Departments. The class at \$1,100 is unknown in the civil establishment which recognizes only the four classes established as far back as 1853 and the grade of chief clerk of bureau, created in 1871.

The chief clerk at general and department headquarters performs duties which demand greater general ability and knowledge of military laws, regulations and methods of business than is required of the \$1,200 clerk in the Department. I recommend, in justice to a modest but generally meritorious class of men, that it be graded and paid according to the prescribed grades and rates of compensation fixed by the act of March 3, 1853, as amended by the act of April 22, 1854.

It is suggested that a proper classification of these clerks would be; Chief clerk at General Headquarters, Class III (\$1,600); chief clerks at headquarters of departments, Class II (\$1,400); the other clerks, Class I (\$1,200) and class \$1,000; so as to offer to clerks of the lowest class an incentive to rise above the mere mechanical performance of clerical duty.

The force for the fiscal year ending June 30, 1896, consists of 10 clerks at \$1,200; 25 clerks at \$1,100; 90 clerks at \$1,000; and 45 messengers at \$720 per annum. The proposed reorganization would be 1 clerk at \$1,600; 10 at \$1,400; 17 at \$1,200; 91 at \$1,000; and 44 messengers at \$720. The discontinuance of the general recruiting service headquarters in the city of New York permits the reduction of the force from 125 to 119 clerks and from 45 to 44 messengers.

Adopting the assignment made by the Secretary of War under the act of August 6, 1894, the distribution of these 119 clerks would be as follows:

	Class III (\$1,600).	Class II (\$1,400).	Class I (\$1,200).	Class \$1,000.
Headquarters of the Army.....	1	1	5	2
Department of California.....		1	1	10
Department of the Colorado.....		1	1	11
Department of the Columbia.....		1	1	7
Department of Dakota.....		1	1	11
Department of the East.....		1	1	12
Department of the Missouri.....		1	1	10
Department of the Platte.....		1	1	11
Department of Texas.....		1	1	10
Military Academy.....		1	1	4
Artillery School.....			1	
Infantry and Cavalry School.....			1	
Cavalry and Light Artillery School.....			1	
Dauids Island, N. Y.....				1
Columbus Barracks, Ohio.....				1
Jefferson Barracks, Mo.....				1
Total.....	1	10	17	91

The highest rates of compensation paid to clerks employed in the Supply Department is \$1,800 per annum, the lowest is \$1,200; and while it is not thought that the rates of pay of the clerks in the Departments are too high, I am convinced that the rates of pay of clerks in the office of the Commanding General and in those of department commanders are relatively too low.

The appropriation for this present force (125 clerks and 45 messengers) is \$161,900. That for the next year for 119 clerks and 44 messengers, will be \$154,880, while, for the more correct classification of the clerks as indicated above, the appropriation, on the basis of 119 clerks and 44 messengers, would be \$158,680, a slight increase of only \$3,800.

Respectfully submitted.

GEO. D. RUGGLES,
Adjutant-General.

				80			80		8
			90				90		138
					116	81	c 728		115
									908
									29
		102					470		588
							575		632
							50		60
									30
									1
1	1						582		626
1	1						604		647
1	1						591		635
1	1						582		626
1	1						584		628
1	1						590		633
1	1						595		638
1	1						608		651
1	1						587		612
1	1						563		610
10	10						5,868		6,306
							782		838
							761		817
							781		837
							786		844
							764		822
							3,874		4,158
							518		553
							504		539
							485		520
							512		547
							511		546
							504		539
							489		524
							491		526
							476		511
							545		581
							505		540
							495		530
							492		528
							518		554
							455		490
							506		541
							507		543
							512		547
							507		543
							509		544
							502		538
							496		531
							519		554
							517		553
							513		549
							12,588		13,471
							212		212
							105		105
							338		338
							40		40
10	10	102	90	80	116	81	25,018		27,172
8		113	51	9	38		996	8 1	331 1,631

Excluded as staff officers from the "total com
their corps, are excluded as staff officers from
allowed by law.

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B.—Position and distribution of troops, by departments, taken

POST.	SITUATION.	COMMANDING OFFICER.	Number of companies.	GARRISONS.	PRESENT.					
				Regiments.	General officers.	Aids-de camp.	Adjutant General's Department.	Bureau of Military Justice.	Quartermaster's Department.	
Department of the East										
Headquarters	Governors Island, N. Y.	Maj. Gen. N. A. Miles	..	Department Staff.	1	1	2	1	6	
Fort Preble, Me	Portland.....	Capt. R. M. Rogers, 2d Art.	1	2d Art.....						
Fort Ethan Allen, Vt.	Near Burlington....	Maj. L. T. Morris, 3d Cav	4	3d Cav.....						
Fort Warren, Mass.	Boston Harbor.....	Maj. Wm. Sinclair, 2d Art.	2	2d Art.....						
Fort Adams, R. I.	Newport	Col. Richard Loder, 3d Art.	4	3d and 4th Art.....						
Fort Trumbull, Conn	New London.	Capt. J. H. Calef, 2d Art	1	2d Art.....						
Fort Columbus, N. Y	Governors Island .	Lieut. Col. W. S. Worth, 13th Inf.	3	13th Inf.....						
Fort Hamilton, N. Y.	New York Harbor .	Lieut. Col. M. P. Miller, 1st Art.	4	1st Art.....						
Fort Wadsworth, N. Y.	do	Maj. John Egan, 1st Art.	3	1st Art.....						
Fort Schuyler, N. Y.	Throggs Neck....	Lieut. Col. I. Rodgers, 2d Art.	2	2d Art.....						
David's Island, N. Y.	Near New Rochelle.	Maj. W. L. Haskin, 1st Art.	3	1st Art.....						1
Madison Barracks, N. Y.	Sacketts Harbor ..	Col. C. G. Bartlett, 9th Inf.	6	9th Inf.....						
Plattsburg Barracks, N. Y.	Plattsburg.....	Col. H. Jewett, 21st Inf	8	21st Inf.....						
Fort Niagara, N. Y. ...	Youngstown.....	Col. A. T. Smith, 13th Inf	3	13th Inf.....						
Fort Porter, N. Y.	Buffalo	Maj. A. S. Daggett, 13th Inf	2	13th Inf.....						
Fort McHenry, Md.	Baltimore.....	Maj. G. B. Rodney, 4th Art.	3	4th Art.....						
Washington Barracks, D. C.	Washington	Col. H. W. Cloason, 4th Art.	5	3d and 4th Art.....						
Fort Myer, Va.	Near Washington, D. C.	Col. D. S. Gordon, 6th Cav	4	6th Cav.....						
Fort Monroe, Va. ....	.....	Col. R. T. French, 1st Art.	5	1st, 2d, 3d, 4th, and 5th Art.....						1
Columbus Barracks, Ohio.	Columbus	Col. J. H. Bradford, 17th Inf.	5	17th Inf.....						
Fort Thomas Ky	Near Newport.....	Col. M. A. Cochran, 6th Inf.	1	6th Inf.....						
Fort McPherson, Ga.	Atlanta.....	Col. W. L. Kellogg, 5th Inf.	10	3d Art. and 5th Inf.						
Jackson Barracks, La.	New Orleans.....	Maj. J. G. Ramsey, 3d Art.	2	3d Art.....						
St. Francis Barracks, Fla.	St. Augustine.....	Col. E. C. Bainbridge, 3d Art.	2	3d Art.....						
Key West Barracks, Fla.	Key West.....	Maj. J. R. Myrick, 3d Art.	2	3d Art.....						
Total Department of the East.....				97		1	1	2	1	9
Department of the Missouri.										
Headquarters....	Chicago, Ill.	Maj. Gen. Wesley Merritt	..	Department staff.	1	3	1	1	2	
Fort Wayne, Mich.	Detroit	Col. S. Snyder, 19th Inf.	4	19th Inf.....						
Fort Brady, Mich.	Sault Ste. Marie ..	Lieut. Col. C. A. Wikoff, 19th Inf	4	19th Inf.....						
Fort Sheridan, Ill.	Highwood.....	Col. R. E. A. Crofton, 15th Inf	11	7th Cav., 1st Art., and 15th Inf						1
Fort Leavenworth, Kans.	.....	Col. H. S. Hawkins, 20th Inf.	12	6th Cav. and 20th Inf.						1

from the latest returns on file in the Adjutant-General's Office, 1895.

PRESENT.															ABSENT.					AGGREGATE.						
Subalterns Department.	Medical Department.	Pay Department.	Corps of Engineers.	Ordnance Department.	Post chaplains.	Colonels.	Lieutenant-colonels.	Majors.	Captains.	Regimental chaplains.	Regimental adjutants.	Regimental quartermasters.	Subalterns.	Enlisted men.	Total commissioned.	Aggregate.	General and staff officers.	Field and regimental staff officers.	Captains.	Subalterns.	Total commissioned.	Aggregate.	Commissioned officers.	Enlisted men.	Aggregate.	
1	1	5					1		1						20	30							20		30	
	1							1	1				2	66	4	70					6	6	10	66	76	
	1						1	4	8	232	12	244	12	244	12	244					2	2	2	14	232	245
	1						1	20	134	7	141	10	134	7	141	10	134			3	3	3	9	10	134	144
	2							4	1	1	1	1	10	298	19	317		1		3	3	3	3	22	298	320
	1							1	3				3	71	5	76							5	71	76	
	2						1	3					11	209	17	226					1	1	1	18	209	227
	2						1	1	1	1	1	1	10	296	19	315					2	2	2	21	296	317
	1							1	2				6	186	10	196			1	1	2	2	12	186	196	
	1							2					5	129	9	138							9	129	138	
	1							1	2				6	226	11	237			1	1	2	2	13	226	239	
	2						1	1	1	10		1	1	10	499	33	532			4	4	4	37	499	536	
	2						1	1	9	1	1	1	12	530	27	557		1	1	4	6	6	33	530	563	
	1							3	1	1	5	218	12	230	12	230			2	3	5	5	17	218	235	
	1							1	2				3	136	7	143							7	136	143	
	1							1	3				8	195	13	208					1	1	1	14	195	209
	2						1	5	1	1	12	392	23	415	23	415			4	5	5	38	392	430	430	
	1							1	5	1	1	9	264	10	283	10	283		1	1	2	4	4	23	264	287
	2						1	1	8				26	521	40	561			1		1	1	41	521	562	
	2						1	1	7		1	1	11	400	25	425					2	2	2	27	400	427
	2						1	1	7		1	1	15	539	30	569			2	3	5	5	35	539	574	
	3						1	1	10		1	1	21	655	39	694		1	2	3	6	6	45	655	700	
	1							4	2				4	132	8	140					2	2	2	10	132	142
	1							2					3	154	7	161					1	3	3	10	154	164
	1							1	2				1	125	7	132					3	3	3	10	125	135
1	36	5				2	11	9	15	100		10	10	210	6,607	423	7,030	1	4	11	46	68	491	6,807	7,098	
1	2	4	1												16	16							16		16	
2							1	1	4		1	1	8	270	18	288			2	2	4	4	22	270	292	
1								1	4				6	243	12	255			1	1	1	1	13	243	256	
3						1	1	1	1	12		1	1	23	756	45	801			1	1	2	2	47	756	803
3						1	1	3	2	16		1	1	58	733	87	820	1	1		8	10	10	97	733	830

REPORT OF THE SECRETARY OF WAR.

B.—Position and distribution of troops, by departments, taken from

POST.	SITUATION.	COMMANDING OFFICER.	Number of companies.	GARRISON.	PRESENT.			
					Regiments.	General officers.	Aids-de-camp.	Adjutant General's Department.
								Bureau of Military Justice.
								Quartermaster's Department.
<i>Department of the Missouri—Cont'd.</i>								
Fort Riley, Kans.	Junction City.....	Col. A. K. Arnold, 1st Cav.	11	1st and 2d Cav., 2d, 3d, and 4th Art.				1
Fort Reno, Okla.	Near Cheyenne Agency	Col. E. P. Pearson, 10th Inf.	6	3d Cav. and 10th Cav.				
Fort Sill, Okla.	29 miles from Rush Springs.	Lieut. Col. E. R. Kellogg, 10th Inf.	7	3d and 7th Cav. and 10th Inf.				
Jefferson Barracks, Mo.	19 miles below St. Louis.	Lieut. Col. S. M. Whit-side, 3d Cav.	2	3d Cav.				1
Total Department of the Missouri.....			57			1	3	1 1 6
<i>Department of Dakota.</i>								
Headquarters.....	St. Paul, Minn.	Brig. Gen. J. R. Brooke...		Department staff		1	2	1 3
Fort Snelling, Minn.	Near St. Paul.....	Col. J. H. Page, 3d Inf.	8	3d Inf.				
Fort Yates, N. Dak.	60 miles from Bismarck.	Lieut. Col. Richard Combs, 12th Inf.	5	8th Cav. and 12th Inf.				
Fort Buford, N. Dak.		Maj. T. J. Wint, 10th Cav.	4	10th Cav. and 25th Inf.				
Fort Keogh, Mont.	Near Miles City...	Col. J. S. Casey, 22d Inf.	5	10th Cav. and 22d Inf.				
Fort Custer, Mont.		Lieut. Col. David Perry, 10th Cav.	6	10th Cav. and 25th Inf.				
Fort Assiniboine, Mont.	Near Assiniboine..	Col. J. K. Mixer, 10th Cav.	6	10th Cav. and 22d Inf.				
Fort Mission, Mont.	Mission.....	Col. A. S. Burt, 25th Inf.	4	25th Inf.				
Camp Merritt, Mont.	Tongue River Agency.	Capt. W. H. Kell, 22d Inf.	1	22d Inf.				
Fort Yellowstone, Wyo.	Yellowstone Park.	Capt. G. S. Anderson, 6th Cav.	2	6th Cav.				1
Total Department of Dakota.....			41			1	2	1 4
<i>Department of the Colorado</i>								
Headquarters.....	Denver, Colo.	Brig. Gen. Frank Wheaton.		Department staff.		1	2	1 2
Fort Logan, Colo.	Near Denver.....	Col. H. C. Merriam, 7th Inf.	10	2d Cav. and 7th Inf.				
Fort Du Chene, Utah.	Utah Agency.....	Maj. J. F. Randlett, 9th Cav.	2	9th Cav.				
Fort Douglas, Utah.	Near Salt Lake City	Col. W. H. Penrose, 16th Inf.	8	16th Inf.				
Fort Wingate, N. Mex.	Near Wingate.....	Col. G. G. Hunt, 2d Cav.	4	2d Cav.				
Fort Bayard, N. Mex.	Near Halls.....	Col. J. F. Kent, 24th Inf.	6	1st Cav. and 24th Inf.				
Fort Stanton, N. Mex.	Near Lincoln.....	Capt. P. S. Bonus, 1st Cav.	1	1st Cav.				
Fort Grant, Ariz.	27 miles from Willcox	Col. E. V. Sumner, 7th Cav.	6	1st and 7th Cav.				
Fort Apache, Ariz.	90 miles from Holbrook	Maj. Henry Carroll, 1st Cav.	5	1st Cav. and 11th Inf.				
Fort Huachuca, Ariz.	Near Huachuca Station	Lieut. Col. D. D. Van Valzah, 24th Inf.	4	24th Inf.				
Whipple Barracks, Ariz.	Prescott.....	Col. I. D. De Russy, 11th Inf.	4	11th Inf.				
Total Department of the Colorado.....			60			1	2	1 3

the latest returns on file in the Adjutant-General's Office, 1895—Continued.

PRESENT.														ABSENT.								AGGREGATE.				
Subsistence Department.	Medical Department.	Pay Department.	Corps of Engineers.	Ordnance Department.	Post chaplains.	Colonels.	Lieutenant-colonels.	Majors.	Captains.	Regimental chaplains.	Regimental adjutants.	Regimental quartermasters.	Subalterns.	Enlisted men.	Total commissioned.	Aggregate.	General and staff officers.	Field and regimental staff officers.	Captains.	Subalterns.	Total commissioned.	Aggregate.	Commissioned officers.	Enlisted men.	Aggregate.	
4					1	1	1	3	10		1	1	27	753	50	802			3	5	8	8	58	752	810	
2					1	1			6		1	1	11	897	23	420			2	5	7	7	30	397	427	
3					1		1	1	6				12	425	24	449			1	2	3	3	27	425	452	
2					1		1		2		1	1	4	222	13	235			1	2	3	3	16	222	238	
1	22	4	1		6	5	8	8	60				6	149	3,798	288	4,086	1	1	11	25	38	38	326	3,798	4,124
1	1	3							2						14	14							14		14	
2					1	1	1	1	6		1	1	17	480	33	523	1		2	3	5	6	30	490	529	
2						1	1		5				6	295	15	310			3	3	6	6	18	295	313	
1									3				7	238	12	250			1	1	2	2	14	238	252	
2					1	1		1	2		1	1	12	306	21	327			5	2	7	7	28	306	324	
2							1	1	4	1			8	355	17	372			2	3	5	5	22	355	377	
3					1	1			4		1	1	11	374	21	395			1	4	5	10	10	31	374	405
1						1		1	4	1	1	1	7	281	17	298			2	5	7	7	24	281	305	
1									1				2	57	4	61							4	57	61	
1									2				4	135	8	143							8	135	143	
1	15	3			3	4	3	6	35	2	4	4	4	74	2,531	162	2,693	1	1	16	22	40	40	202	2,531	2,733
1	1	2							1						11	11							11		11	
2					1	1	2	1	13		1	1	19	633	39	672			1	4	5	5	44	633	677	
1									2				3	119	7	126				1	1	1	8	119	127	
2					1	1	1	1	7		1	1	16	529	31	560			3	3	6	6	37	529	566	
2						1		1	3		1	1	7	273	16	289	1		1	3	5	10	10	29	273	299
2						1			4	1	1	1	8	363	18	411			1	4	8	13	13	31	363	424
1									1				2	60	4	70	1					1	1	5	66	71
3								2	5		1	1	6	382	19	401			3	3	5	9	9	28	382	410
2								1	4					6	303	14	317			1	4	5	5	19	303	322
1									1				4	258	7	265			3	4	7	7	14	258	272	
2						1	1		2		1	1	8	274	16	290			1	4	5	10	10	26	274	300
1	19	2			3	6	5	7	41	1	6	6	6	79	3,230	182	3,412	2	4	22	39	67	67	249	3,230	3,479

B.—Position and distribution of troops, by departments, taken from

			GARRISONS.		PRESENT.				
POST.	SITUATION.	COMMANDING OFFICER.	Number of companies.	Regiments.	General officers.	Aids-de-camp.	Adjutant-General's Department.	Bureau of Military Justice.	Quartermaster's Department.
Department of the Columbia.									
Headquarters.....	Vancouver Bar racks, Wash.	Brig. Gen. E. S. Otis		Department staff	1	1	1	3	
Vancouver Barracks, Wash.	Vancouver . . .	Col. T. W. Anderson, 14th Inf.	9	4th Cav. and 14th Inf.					
Fort Canby, Wash.	Mouth of the Colum bia River	Maj. D. H. Kinzie, 5th Art.	2	5th Art					
Fort Walla Walla, Wash.	Walla Walla	Col. C. E. Compton, 4th Cav.	3	4th Cav					
Fort Spokane Wash	Spokane Falls	Maj. G. S. Carpenter, 4th Inf.	3	4th Inf.					
Fort Sherman, Idaho	Coeur d'Alene	Col. R. H. Hall, 4th Inf..	5	4th Cav. and 4th Inf					
Boise Barracks, Idaho	Boise City	Lient. Col. H. C. Cook, 4th Inf	2	4th Cav. and 4th Inf.					
Total Department of the Columbia			24		1	1	1	3	
Department of Cali fornia.									
Headquarters	San Francisco, Cal	Brig. Gen. J. W. Forsyth.		Department staff	1	2	1	1	
Fort Mason, Cal.	do	Capt. G. W. Crabb, 5th Art.	1	5th Art					
Presidio, Cal	do	Col W. M. Graham, 5th Art.	10	4th Cav. and 5th Art.					1
Alcatraz Island, Cal	do	Lieut. Col. F. L. Guen ther, 5th Art.	2	5th Art					
Angel Island, Cal. . . .	do	Col. W. R. Shafter, 1st Inf	4	1st Inf.					
Benicia Barracks Cal	Benicia	Lieut. Col. J. H. Patter son, 1st Inf.	3	1st Inf.					
San Diego Barracks, Cal.	San Diego	Maj. T. M. K. Smith, 1st Inf.	1	1st Inf.					
Total Department of California			21		1	2	1	1	
Department of Texas.									
Headquarters.....	San Antonio, Tex . .	Brig. Gen. Z. R. Bliss		Department staff.	1	2	1	3	
Fort Sam Houston, Tex.	do	Col. J. F. Wade, 5th Cav.	11	5th and 7th Cav, 3d Art., and 18th Inf					1
Fort Brown, Tex	Brownsville	Maj. Henry Wagner, 5th Cav	2	5th Cav.					
Fort Ringgold, Tex	Rio Grande City. . .	Maj. D. W. Burke, 23d Inf.	3	5th Cav. and 23d Inf.					
Fort McIntosh, Tex	Laredo	Maj Wirt Davis 5th Cav	3	5th Cav. and 23d Inf.					
Fort Clark, Tex.	Brackettville	Col. Samuel Ovenshine, 23d Inf.	6	5th and 7th Cav. and 23d Inf.					
Fort Hancock, Tex . . .	Hancock	Capt. Henry Jackson, 7th Cav	1	7th Cav					
Fort Bliss, Tex	El Paso	Col. D. Parker, 18th Inf . .	2	13th Inf.					
Eagle Pass, Tex	Eagle Pass.	Capt. G. H. Paddock, 5th Cav.	1	5th Cav.					
Total Department of Texas.			31		1	2	1	4	

MAJOR-GENERAL COMMANDING THE ARMY.

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the latest returns on file in the Adjutant-General's Office, 1896—Continued.

PRESENT.															ABSENT.							AGGREGATE.			
Subsistence Department.	Medical Department.	Pay Department.	Corps of Engineers.	Ordnance Department.	Post chaplains.	Colonels.	Lieutenant-colonels.	Majors.	Captains.	Regimental chaplains.	Regimental adjutants.	Regimental quartermasters.	Subalterns.	Enlisted men.	Total commissioned.	Aggregate.	General and staff officers.	Field and regimental staff officers.	Captains.	Subalterns.	Total commissioned.	Aggregate.	Commissioned officers.	Enlisted men.	Aggregate.
1	1	2				1	1	1	9	1	1	18	501	34	625				8	4	7	7	41	501	583
	1							1	2				3	121	6	127				2	2	2	8	121	129
	1				1	1		2	2		1	1	6	229	15	243		1	3	3	7	7	23	229	256
	1				1		1		3				5	189	11	199				1	1	1	1	189	300
	2				1				4		1	1	7	335	16	351			2	5	8	8	24	335	359
	1					1		1					4	115	7	122			1		1	1	8	115	123
1	9	2			2	3	3	4	22		3	3	42	1,578	100	1,678		1	10	15	26	26	126	1,578	1,704
1	1	2											1		11	11							11		11
	1								1				1	63	3	66				2	2	2	5	63	66
	3					1	1	2	9		1	1	20	690	39	699			1	5	6	6	45	690	705
	1				1		1		1				4	121	6	129			1	1	2	2	10	121	131
	2				1	1			3		1	1	6	278	15	293			3	2	5	5	20	278	298
	2							1					6	194	9	203			3		3	3	12	194	204
									1				2	66	3	72				1	1	1	4	66	73
1	10	2			2	2	3	3	14		2	2	40	1,385	89	1,473			8	11	19	19	107	1,385	1,492
1	1	2		1					1				1		14	14							14		14
	3					1	2		10		1	1	21	707	40	747		2	3	4	9	9	49	707	756
	1							1	2				2	127	6	133				1	1	1	7	127	134
	1				1			1	3				4	201	10	211				1	1	1	11	201	212
	1				1			1	3				4	187	9	196				2	2	2	11	187	198
	2				1	1	1		5		1	1	13	555	25	580			3	5	8	8	33	555	588
	1								1				2	67	4	71							4	67	71
	1					1			2		1	1	5	157	11	168			2	3	5	5	16	157	173
	1								1				1	61	3	64				1	1	1	4	61	65
1	12	2		1	3	3	3	3	27		3	3	54	1,062	122	1,184		2	8	17	27	27	149	1,062	1,211

B.—Position and distribution of troops, by departments, taken from

POST.	SITUATION.	COMMANDING OFFICER.	Number of companies.	GARRISONS.	PRESENT.					
				Regiments.	General officers.	Aids-de camp.	Adjutant-General's Department.	Bureau of Military Justice.	Quartermaster's Department.	
Department of the Platte.										
Headquarters	Omaha, Nebr.	Brig. Gen. J. J. Coppinger.		Department staff.	1	1	1	1	2	
Fort Omaha, Nebr.	Omaha.	Col. J. C. Bates, 2d Inf.	7	2d Inf.						
Fort Niobrara, Nebr.	Near Valentine ...	Maj. F. E. Lacey, 17th Inf.	7	8th and 12th Inf.						
Fort Robinson, Nebr.	.....	Col. Jas. Biddle, 9th Cav.	8	9th Cav.						
Fort D. A. Russell, Wyo.	Near Cheyenne ...	Col. J. J. Van Horn, 8th Inf.	8	8th and 17th Inf.						
Fort Washakie, Wyo.	Near Shoshone Agency	Maj. Adam Kramer, 9th Cav.	1	8th Inf.						
Fort Meade, S. Dak. .	Near Sturgis.	Col. C. H. Carlton, 8th Cav.	8	8th Cav.						
Total Department of the Platte.....				40		1	1	1	1	2

the latest returns on file in the Adjutant-General's Office, 1895—Continued.

PRESENT.												ABSENT.				AGGREGATE.										
Substance Department.	Medical Department.	Pay Department.	Corps of Engineers.	Ordnance Department.	Post chaplains.	Colonels.	Lieutenant-colonels.	Majors.	Captains.	Regimental chaplains.	Regimental adjutants.	Regimental quartermasters.	Subalterns.	Enlisted men.	Total commissioned.	Aggregate.	General and staff officers.	Field and regimental staff officers.	Captains.	Subalterns.	Total commissioned.	Aggregate.	Commissioned officers.	Enlisted men.	Aggregate.	
1	1	2													10	10							10		10	
12	12				1	1		8	4	1	1	14	530	27	563				3	0	8	8	35	536	571	
2	2					1		1	4	1	1	13	441	23	464				5	5	12	12	35	441	476	
2	2					1	1	2	9	1	1	18	477	36	513				1	2	9	3	39	477	516	
						1	1	1	7		1	12	470	26	502				3	6	10	19	36	476	512	
1								1	1					70	4	74				1	1	1	1	5	70	75
3					1	1	2	7		1	1	12	478	29	507				3	6	9	9	38	478	516	
1	13	2			2	4	3	7	36	1	5	70	2,478	155,2	683			3	14	26	43	43	186	2,478	2,678	

C.—Military commands and posts, with post-offices, telegraph stations, and nearest railroad stations or boat landings.

ARMY OF THE UNITED STATES.

Headquarters, Washington, D. C., Maj. Gen. N. A. MILES, commanding.

DEPARTMENT OF THE EAST.

Maj. Gen. T. H. RUGER, commanding. Headquarters, Governors Island, New York City.

Geographical limits.—The New England States, States of New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Louisiana, Mississippi, Alabama, Kentucky, Tennessee, Ohio, and the District of Columbia.

DEPARTMENT OF THE MISSOURI.

Maj. Gen. WESLEY MERRITT, commanding. Headquarters, Chicago, Ill.

Geographical limits.—States of Michigan, Wisconsin, Indiana, Illinois, Missouri, Kansas, and Arkansas and Indian and Oklahoma Territories.

DEPARTMENT OF DAKOTA.

Brig. Gen. JOHN R. BROOKE, commanding. Headquarters, St. Paul, Minn.

Geographical limits.—States of Minnesota, South Dakota (excepting so much as lies south of the forty-fifth parallel west of the Missouri River, and all south of the forty-fourth parallel east of that river), North Dakota, and Montana and the post of Fort Yellowstone, Wyo.

DEPARTMENT OF THE COLORADO.

Brig. Gen. FRANK WHEATON, commanding. Headquarters, Denver, Colo.

Geographical limits.—State of Colorado and the Territories of Utah, Arizona, and New Mexico.

DEPARTMENT OF THE COLUMBIA.

Brig. Gen. ELWELL S. OTIS, commanding. Headquarters, Vancouver Barracks, Wash.

Geographical limits.—States of Oregon, Washington, and Idaho and Alaska Territory, excepting so much of Idaho as is embraced in the Department of the Platte.

DEPARTMENT OF CALIFORNIA.

Brig. Gen. JAMES W. FORSYTH, commanding. Headquarters, San Francisco, Cal.

Geographical limits.—States of California and Nevada.

DEPARTMENT OF TEXAS.

Brig. Gen. ZENAS R. BLISS, commanding. Headquarters, San Antonio, Tex.

Geographical limits.—State of Texas.

DEPARTMENT OF THE PLATTE.

Brig. Gen. JOHN J. COPPINGER, commanding. Headquarters, Omaha, Nebr.

Geographical limits.—States of Iowa, Nebraska, and Wyoming (excepting the post of Fort Yellowstone, Wyo.); so much of Idaho as lies east of a line formed by the extension of the western boundary of Utah to the northeastern boundary of Idaho, and so much of South Dakota as lies south of the forty-fifth parallel west of the Missouri River, and all south of the forty-fourth parallel east of that river.

POSTS.

[Those not garrisoned are indicated thus *.]

- Adams, Fort, R. I.* (Dept. East).—P. O., R. R. and tel. stn. Newport, R. I.; boat from Newport, dist. 3 m.
- Alcatraz Island, Cal.* (Dept. Cal.).—P. O. same; tel. and R. R. stn. San Francisco, Cal., dist. 4 m.; Govt. steamer daily (except Sunday) to post.
- Angel Island, Cal.* (Dept. Cal.).—P. O. and tel. stn. same; R. R. stn. San Francisco, Cal., dist. 7 m.; Govt. steamer daily (except Sunday) to post.
- Apache, Fort, Ariz.* (Dept. Colo.).—P. O. and tel. stn. same; buckboard daily from Holbrook, on A. and P. R. R., dist. 90 m.
- Army and Navy General Hospital, Ark.*—P. O., tel. and R. R. stn. Hot Springs, Ark.
- Assinniboine, Fort, Mont.* (Dept. Dak.).—P. O. same; tel. and R. R. stn. (G. N. R.) Assinniboine, Mont., dist. 1½ miles.
- Barrancas, Fort, Fla.* (Dept. East).—P. O. Warrington, Fla.; tel. stn. Pensacola Navy-Yard, Fla.; R. R. stn. at post.
- Bayard, Fort, N. Mex.* (Dept. Colo.).—P. O. and tel. stn. same; R. R. stn. (S. C. and N. R. R.) Halls, dist. 3 m.
- Benicia Barracks, Cal.* (Dept. Cal.).—P. O., tel. stn., R. R. stn. and boat landing Benicia, Cal., dist. 1 m.
- Bliss, Fort, Tex.* (Dept. Tex.).—P. O., tel. and R. R. stn. El Paso, Tex., dist. 6 m.
- Boise Barracks, Idaho* (Dept. Columbia).—P. O., tel. and R. R. stn. Boise City, Idaho.
- Brady, Fort, Mich.* (Dept. Mo.).—P. O., tel. and R. R. stn. Sault Ste. Marie, Mich., dist. 1 m.
- Brown, Fort, Tex.* (Dept. Tex.).—P. O., tel. and R. R. stn. (R. G. R. R.) Brownsville, Tex.
- Canby, Fort, Wash.* (Dept. Columbia).—P. O. and tel. stn. at post; daily steamer from Portland, Oreg., to Astoria, dist. 98 m., and thence by steam tug daily (except Sunday) to post, dist. 14 m.
- * *Carroll, Fort, Md.*—P. O. and tel. stn. Baltimore, Md., dist. 6½ m. by water from Light st. wharf.
- * *Caswell, Fort, N. C.*—P. O. and tel. stn. Southport, N. C., dist. 2 m.; steamer daily from Wilmington to Southport, dist. 22 m.
- Clark, Fort, Tex.* (Dept. Tex.).—P. O. Brackettville, Tex.; tel. stn. Fort Clark, via Spofford Junction, Tex.; daily stage from Spofford Junction, on S. P. R. R., dist. 9 m.
- * *Clarks Point, Mass., fort at.*—P. O. and tel. stn. New Bedford, Mass., dist. 4 m.
- * *Clinch, Fort, Fla.*—P. O., tel. and R. R. stn. Fernandina, Fla., dist. 3 m.
- Columbus Barracks, Ohio* (Dept. East).—P. O. and R. R. stn. Columbus, Ohio; tel. stn. at post.
- Columbus, Fort, N. Y.* (Dept. East).—P. O. and tel. stn. Governors Island, New York City; Govt. steamer to post.
- * *Constitution, Fort, N. H.*—P. O. New Castle, N. H.; tel. and R. R. stn. Portsmouth, N. H.; stage or steamer from Portsmouth, dist. 3 m.
- * *Crook, Fort, Nebr.* (Dept. Platte).—(10 miles south of Omaha)—P. O. and tel. stn. Bellevue, Nebr., R. R. stn. at post.
- Custer, Fort, Mont.* (Dept. Dak.).—P. O., tel. and R. R. stn. same.
- D. A. Russell, Fort, Wyo.* (Dept. Platte).—P. O., tel. and R. R. stn. (U. P., D. and G.) Fort Russell, Wyo.
- Daids Island, N. Y.* (Dept. East).—P. O. same; tel. stn. New Rochelle, N. Y.; horse car and boat from New Rochelle, dist. 3 m.
- * *Delaware, Fort, Del.*—P. O. and tel. stn. Delaware City, Del.; daily steamer from Philadelphia to Delaware City, dist. 2 m. from post.
- Douglas, Fort, Utah* (Dept. Colo.).—P. O., tel. and R. R. stn. Salt Lake City, Utah, dist. 3 m.; city railway to post.
- Du Chesne, Fort Utah* (Dept. Colo.).—P. O. and tel. stn. same; R. R. stn. (R. G. W. R. R.) Prices Station, dist. 94 m.; stage line to post.
- * *Dutch Island, R. I., fort on.*—P. O. Jamestown, R. I.; tel. stn. Newport, R. I.; steam ferry from Newport to Jamestown, dist. 4 m., and private boat thence to post, dist. 1 m.
- Eagle Pass, Camp* (subpost of Fort Clark, Tex.) (Dept. Tex.).—P. O., tel. and R. R. stn. Eagle Pass, Tex.
- Ethan Allen, Fort, Vt.* (Dept. East).—P. O. and R. R. stn. Essex Junction, Vt., dist. 2 m., tel. stn. Burlington, Vt., dist. 5 m.
- * *Finns Point, N. J., battery at.*—P. O., R. R. and tel. stn. Salem, N. J., dist. 6 m.
- * *Foote, Fort, Md.*—P. O. New Glatz, Md.; tel. stn. Alexandria, Va.; steamer from Washington, D. C., dist. 9 m.
- * *Gaines, Fort, Ala.*—P. O., tel. and R. R. stn. Mobile, Ala.; boat from Mobile, dist. 30 m.

- * *Gorges, Fort, Me.*—P. O., R. R. and tel. stn. Portland, Me., dist. 1½ m.
- Grant, Fort, Ariz.* (Dept. Colo.)—P. O. and tel. stn. same; daily stage (except Sunday) from Willcox, on S. P. R. R., dist. 27 m.
- * *Griswold, Fort, Conn.*—P. O. and tel. stn. Groton, Conn.; R. R. stn. New London; ferry from New London, dist. 1 m.
- Hamilton, Fort, N. Y.* (Dept. East).—P. O. and tel. stn. same; city railroad from Brooklyn, dist. 6 m.
- Harrison, Fort, Mont.* (Dept. Dak.)—P. O., tel. and R. R. stn. Helena, Mont., dist. 3 m.
- Huachuca, Fort, Ariz.* (Dept. Colo.)—P. O. and tel. stn. same; daily buckboard from Huachuca Siding on N. Mex. and A. R. R., dist. 7 m.
- * *Independence, Fort, Mass.*—P. O. and tel. stn. Boston, Mass.; Govt. tug from Boston, dist. 3 m.
- Jackson Barracks, La.* (Dept. East).—P. O. and R. R. stn. New Orleans, La., dist. 6 m.; street cars from New Orleans pass the post; tel. stn. Slaughter House, St. Bernard Parish, La.
- * *Jackson, Fort, La.*—P. O. and R. R. stn. Buras, La., dist. 5 m.; tel. stn. Quarantine, La.
- Jefferson Barracks, Mo.* (Dept. Mo.)—P. O., tel. and R. R. stn. same.
- * *Jefferson, Fort, Fla.*—P. O. and tel. stn. Key West, Fla.; boat from Key West, dist. 71 m.
- * *Johnston, Fort, N. C.*—P. O. and tel. stn. Southport, N. C.; steamer daily from Wilmington, N. C., dist. 26 m.
- Keogh, Fort, Mont.* (Dept. Dak.)—P. O., tel. and R. R. stn. (N. P. R. R.) same.
- Key West Barracks, Fla.* (Dept. East).—P. O., tel. stn. and boat ldg. Key West, Fla.
- * *Knox, Fort, Me.*—P. O. Prospect Ferry, Me.; tel. and R. R. stn. Bucksport, Me.; ferry from Bucksport, dist. ¾ m.
- * *Lafayette, Fort, N. Y. H.*—P. O. and tel. stn. Fort Hamilton, N. Y.; city railroad from Brooklyn, dist. 6 m.
- Leavenworth, Fort, Kans.* (Dept. Mo.)—P. O., tel. and R. R. stn. same.
- * *Livingston, Fort, La.*—P. O. Grand Isle, La.; tel. stn. New Orleans, La.; steamer weekly from New Orleans, dist. 95 m.
- Logan, Fort, Colo.* (10 miles south of Denver) (Dept. Colo.)—P. O., tel. and R. R. stn. (D. and R. G. and U. P. R. R.) same.
- * *Macon, Fort, N. C.*—P. O. Beaufort, N. C.; tel. and R. R. stn. Morehead City, N. C., dist. 2 m.
- Madison Barracks, N. Y.* (Dept. East).—P. O., tel. and R. R. stn. Sacketts Harbor, N. Y.
- * *Marion, Fort, Fla.* (Dept. East).—P. O., tel. and R. R. stn. St. Augustine, Fla.
- Mason, Fort, Cal.* (Dept. Cal.)—P. O. Station A, San Francisco, Cal.; R. R. stn. San Francisco, Cal., dist. 3 m.; street cars ¼ m. from post; tel. stn. at post.
- * *McClary, Fort, Me.*—P. O., tel. and R. R. stn. Kittery Point, Me.
- McHenry, Fort, Md.* (Dept. East).—P. O. tel. and R. R. stn. Baltimore, Md.
- McIntosh, Fort, Tex.* (Dept. Tex.)—P. O., tel. and R. R. stn. Laredo, Tex.
- * *McKinney, Fort, Wyo.* (Dept. Platte).—P. O. and tel. stn. same; daily stage from Clearmont, Wyo., on Burlington and Missouri River R. R., dist. 33 m.
- McPherson, Fort, Ga.* (4 m. from Atlanta, Ga.) (Dept. East).—P. O., tel. and R. R. stn. same.
- Meade, Fort, S. Dak.* (Dept. Platte).—P. O. same; tel. and R. R. stn. (F. E. and M. V.) Sturgis City, dist. 3 m.
- Merritt, Camp* (subpost of Fort Keogh, Mont.) (Dept. Dak.)—P. O. Lame Deer, Mont.; tel. and R. R. stn. (N. P. R. R.) Rosebud, Mont.; triweekly stage from Rosebud, dist. 10 m.
- * *Mifflin, Fort, Pa.*—P. O., Paschallville stn., Philadelphia, Pa.; R. R. and tel. stn. Philadelphia, Pa., dist. 5 m.
- * *Missoula, Fort, Mont.* (Dept. Dak.)—P. O. same; tel. and R. R. stn. (N. P.) Missoula, Mont., dist. 4 m.
- Monroe, Fort, Va.* (Dept. East).—P. O. and tel. stn. same; steamers daily from Baltimore, Washington, Norfolk, and New York, and railroad (C. and O.) from Richmond, Va.
- * *Montgomery, Fort, N. Y.*—P. O., tel. and R. R. stn. Rouse Point, N. Y., dist. 1½ m.
- * *Morgan, Fort, Ala.*—P. O. Herndon, Ala.; tel. stn. at post; steamer from Mobile, dist. 30 m.
- * *Moultrie, Fort, S. C.*—P. O. Moultrieville, S. C.; tel. and R. R. stn. Charleston, S. C., dist. 5 m.
- Myer, Fort, Va.* (Dept. East).—P. O., tel. and R. R. stn. Washington, D. C., dist. 4 m.; telephone to post.
- Niagara, Fort, N. Y.* (Dept. East).—P. O. and tel. stn. Youngstown, N. Y.; R. R. stn. Lewiston, N. Y., dist. 7 m.
- Niobrara, Fort, Nebr.* (Dept. Platte).—P. O. and tel. stn. same; R. R. stn. (F. E. and M. V.) Valentine, Nebr., dist. 4½ m.
- * *Oglethorpe, Fort, Ga.*—P. O., tel. and R. R. stn. Savannah, Ga., dist. 3 m.

- Omaha, Fort, Nebr.** (Dept. Platte).—P. O. and R. R. stn. (F. E. and M. V.) same; tel. (telephone to post) stn. Omaha, Nebr.
- * **Ontario, Fort, N. Y.** (Dept. East).—P. O., tel. and R. R. stn. Oswego, N. Y.
- * **Phoenix, Fort, Mass.**—P. O., R. R. and tel. stn. Fairhaven, Mass.
- * **Pickens, Fort, Fla.**—P. O. Warrington, Fla.; tel. stn. Pensacola Navy-Yard; R. R. stn. at Fort Barrancas, Fla., dist. 1 m.
- Pilot Butte, Camp** (subpost of Fort D. A. Russell, Wyo.) (Dept. Platte).—P. O., tel. and R. R. stn. (U. P.) Rock Springs, Wyo.
- Plattsburg Barracks, N. Y.** (Dept. East).—P. O., tel. and R. R. stn. Plattsburg, N. Y.
- * **Popham, Fort, Me.**—P. O. Popham Beach, Me.; tel. and R. R. stn. Bath, Me., dist. 12 m. by water, 15 m. by land.
- Porter, Fort, N. Y.** (Dept. East).—P. O., tel. and R. R. stn. Buffalo, N. Y.
- Preble, Fort, Me.** (Dept. East).—P. O., tel. and R. R. stn. Portland, Me., dist. 1½ m.
- Presidio of San Francisco, Cal.** (Dept. Cal.).—P. O. and tel. stn. same; R. R. stn. San Francisco, Cal., dist. 4½ m.; city railway to post.
- * **Pulaski, Fort, Ga.**—P. O., R. R. and tel. stn. Savannah, Ga., dist. 14 m.
- Reno, Fort, Okla. T.** (Dept. Mo.).—P. O., tel. and R. R. stn. same.
- Riley, Fort, Kans.** (Dept. Mo.).—P. O., tel. and R. R. stn. same.
- Ringgold, Fort, Tex.** (Dept. Tex.).—P. O. Rio Grande City, Tex.; tel. stn. at post; stage from Pena, on T. M. R. R., dist. 72½ m., and from San Miguel, Mex., on Mex. N. R. R., dist. 23 m.
- Robinson, Fort, Nebr.** (Dept. Platte).—P. O., tel. and R. R. stn. (F. E. and M. V.) same.
- Sam Houston, Fort, Tex.** (Dept. Tex.).—P. O., tel. and R. R. stn. San Antonio, Tex.
- San Carlos** (subpost of Fort Grant), Ariz. (Dept. Colo.).—P. O. and tel. stn. same; daily stage (except Sunday) from Bowie, on S. P. R. R. (via Fort Thomas), dist. 102 m., and triweekly from Willcox, via Fort Grant to Thomas, thence by regular stage from Thomas to post, dist. 106 m.
- San Diego Barracks, Cal.** (Dept. Cal.).—P. O., tel. and R. R. stn. (C. S.), and boat ldg. San Diego, Cal.
- * **Scammel, Fort, Me.**—P. O., tel. and R. R. stn. Portland, Me., dist. 2 m.
- Schuyler, Fort, N. Y.** (Dept. East).—P. O., tel. and R. R. stn. West Chester, N. Y., dist. 3½ m.
- * **Sewall, Fort, Mass.**—P. O., tel. and R. R. stn. Marblehead, Mass., dist. 1½ m.
- Sheridan, Fort, Ill.** (Dept. Mo.).—P. O., R. R. and tel. stn. same.
- Sherman, Fort, Idaho.** (Dept. Columbia).—P. O. Sherman, Idaho; tel. and R. R. stn. Cœur d'Alene, Idaho (on branch N. P. R. R.), dist. ¾ m.
- * **Ship Island, Miss., fort at.**—P. O., tel. and R. R. stn. (L. and N.) Biloxi, Miss., dist. 15 m.; special boat to post.
- Sill, Fort, Okla. T.** (Dept. Mo.).—P. O. and tel. stn. same; stage daily from Rush Springs, Ind. T., on C., R. I. and P. R. R., dist. 29 m.
- Snelling, Fort, Minn.** (Dept. Dak.).—P. O., tel. and R. R. stn. same; electric st. R. R. to St. Paul, Minn., dist. 7 m.
- Spokane, Fort, Wash.** (Dept. Columbia).—P. O. Miles, Wash.; tel. and R. R. stn. Davenport, Wash., on N. P. R. R., dist. 25 m.
- Stanton, Fort, N. Mex.** (Dept. Colo.).—P. O. and tel. stn. same; buckboard daily from San Antonio, N. Mex., on A., T. and S. F. R. R., dist. 130 m.
- * **Sterens, Fort, Oreg.**—P. O. and tel. stn. (Govt. tel. to post) Astoria, Oreg.; steamer daily from R. R. stn. Portland, Oreg., to Astoria, dist. 98 m.
- St. Francis Barracks, Fla.** (Dept. East).—P. O., tel. and R. R. stn. St. Augustine, Fla.
- * **St. Philip, Fort, La.**—P. O. Neptune, La.; tel. stn. Old Quarantine stn., La.; steamer daily from New Orleans, dist. 73 m.
- * **Sumter, Fort, S. C.**—P. O. Moultrieville, S. C.; tel. and R. R. stn. Charleston, S. C., dist. 5 m.
- * **Taylor, Fort, Fla.**—P. O., tel. stn., and boat ldg. Key West, Fla.
- Thomas, Fort, Ky.** (Dept. East).—P. O., tel. and R. R. stn. Newport Ky., dist. 3 m.
- Trumbull, Fort, Conn.** (Dept. East).—P. O., tel. and R. R. stn. New London, Conn., dist. 1 m.
- Vancouver Barracks, Wash.** (Dept. Columbia).—P. O. and boat ldg. Vancouver, Wash.; tel. stn. at post; R. R. stn. at Portland, Oreg.; boat from Portland, Oreg., daily, dist. 18 m., and by ferry and city railroad, dist. 6 m.
- Wadsworth, Fort, N. Y.** (Dept. East).—P. O. Rosebank, Staten Island, N. Y.; tel. stn. Quarantine, Clifton, Staten Island, N. Y.
- Walla Walla, Fort, Wash.** (Dept. Columbia).—P. O., tel. and R. R. stn. (O. R. and N. Co., and W. and C. R. R. R.) Walla Walla, Wash., dist. 1 m.
- Warren, Fort, Mass.** (Dept. East).—P. O. and tel. stn. Boston, Mass.; steamer from Boston, dist. 7 m.
- Washakie, Fort, Wyo.** (Dept. Platte).—P. O. and tel. stn. same; daily stage from Rawlins, Wyo., on U. P. R. R., dist. 147 m.
- Washington Barracks, D. C.** (Dept. East).—P. O., tel. and R. R. stn. Washington, D. C.
- * **Washington, Fort, Md.**—P. O. same; tel. stn. Alexandria, Va.; stnbt. from Washington, D. C., dist. 13 m.

Wayne, Fort, Mich. (Dept. Mo.).—P. O. and tel. stn. Detroit, Mich.; city railway from Detroit, dist. 4 m.
West Point, N. Y. (U. S. Mil. Acad.).—P. O., tel. and R. R. stn. same.
Whipple Barracks, Ariz. (Dept. Colo.).—P. O. and R. R. stn. Whipple, Ariz.; tel. stn. Prescott, Ariz.
Willeys Point, N. Y. (U. S. Engineer School).—P. O. and tel. stn. same; R. R. stn. Whitestone, N. Y., dist. 2½ m. (See Engineer Depot.)
 * *Winfield Scott, Fort, Cal.* (Dept. Cal.).—P. O. and tel. stn. Presidio of San Francisco, Cal.; R. R. stn. San Francisco, Cal.
Wingate, Fort, N. Mex. (Dept. Colo.).—P. O. and tel. stn. same; R. R. stn. (A. and P.) Wingate, dist. 3 m.
 * *Winthrop, Fort, Mass.*—P. O. and tel. stn. Boston, Mass.; stmbt. from Boston, dist. 2 m.
Wood, Fort (subpost of Fort Columbus), N. Y. (Dept. East).—P. O., tel. and R. R. stn. N. Y. City.
Yates, Fort, N. Dak. (Dept. Dak.).—P. O. and tel. stn. same; R. R. stn. Bismarck, on N. P. R. R., dist. 60 m.
Yellowstone, Fort, Wyo. (Dept. Dak.).—P. O. Mammoth Hot Springs, Wyo.; tel. stn., June 1 to October 1, Mammoth Hot Springs; October 1 to May 31, Cinnabar, Mont.; R. R. stn. Cinnabar, Mont., via Livingston, on N. P. R. R., dist. 8 m.

ARMORIES, ARSENALS, AND DEPOTS.

ARMORIES, ARSENALS, AND ORDNANCE DEPOTS.

Allegheny Arsenal, Pa.—P. O., tel. and R. R. stn. Pittsburg, Pa.; Lt. Col. F. H. Parker, comdg.
Augusta Arsenal, Ga.—P. O., tel. and R. R. stn. Augusta, Ga., dist. 3 m.; electric R. R. from Augusta to arsenal; Capt. D. M. Taylor, comdg.
Benicia Arsenal, Cal.—P. O., tel., R. R. stn., and boat landing Benicia, Cal., dist. 1 m.; Lieut. Col. L. S. Babbitt, comdg.
Columbia Arsenal, Tenn.—P. O., tel. and R. R. stn. Columbia, Tenn.; Maj. J. E. Greer, comdg.
Fort Monroe Arsenal, Va.—P. O. and tel. stn. Fort Monroe, Va.; stmbts. daily from New York, Baltimore, Washington, and Norfolk, and railroad (C. and O.) from Richmond, Va.; Lieut. Col. W. A. Marye, comdg.
Frankford Arsenal, Pa.—P. O. (Station F) and tel. stn. (telephone to post) Philadelphia, Pa.; Lieut. Col. J. P. Farley, comdg.
Indianapolis Arsenal, Ind.—P. O., tel. and R. R. stn. Indianapolis, Ind.; Maj. A. L. Varney, comdg.
Kennebec Arsenal, Me.—P. O., tel. and R. R. stn. Augusta, Me.; Maj. J. R. McGinness, comdg.
New York Arsenal, N. Y.—P. O. and tel. stn. Governors Island, New York City; Govt. steamer to post; Maj. F. H. Phipps, comdg.
Rock Island Arsenal, Ill.—P. O. and tel. stn. Rock Island, Ill.; special conveyance from R. R. stns. and boat ldgs. in Rock Island, Ill., and Davenport, Iowa, dist. 2 m.; Col. A. R. Buffington, comdg.
St. Louis Powder Depot, Mo.—P. O., tel. and R. R. stn. Jefferson Barracks, Mo.; Maj. J. A. Kress, comdg.
Sandy Hook Proving Ground, N. J.—P. O. Governors Island, New York City; tel. stn. Sandy Hook, N. J.; Govt. steamer daily from New York City, dist. 20 m.; Capt. Frank Heath, comdg.
San Antonio Arsenal, Tex.—P. O., tel. and R. R. stn. San Antonio, Tex.; Maj. C. E. Dutton, comdg.
Springfield Armory, Mass.—P. O., tel. and R. R. stn. Springfield, Mass.; Col. A. Mordecai, comdg.
U. S. Powder Depot, N. J.—P. O., tel. (telephone to post) and R. R. stn. Dover, N. J., dist. 4½ m.; Col. J. M. Whittemore, comdg.
Watertown Arsenal, Mass.—P. O., tel. and R. R. stn. Watertown, Mass.; Maj. J. W. Reilly, comdg.
Watervliet Arsenal, N. Y.—P. O. and tel. stn. (telephone to post) West Troy, N. Y.; R. R. stn. Troy, N. Y., dist. 1 m.; electric street cars to Albany, N. Y.; Maj. Isaac Arnold, jr., comdg.

RECRUITING RENDEZVOUS.

Columbus Barracks, Ohio.—P. O. and R. R. stn. Columbus, Ohio; tel. stn. at post.
Davids Island, N. Y.—P. O. same; tel. stn. New Rochelle, N. Y.; horse car and boat from New Rochelle, dist. 3 m.
Jefferson Barracks, Mo.—P. O., tel. and R. R. stn. same.
Fort Sheridan, Ill.—P. O., tel. and R. R. stn. same.

ENGINEER DEPOT.

Willels Point, N. Y.—P. O. and tel. stn. same; R. R. stn. Whitestone, Queens County, N. Y., dist. 2½ m.; Maj. J. G. D. Knight, comdg.

HEADQUARTERS OF REGIMENTS.

CAVALRY.

- | | |
|----------------------------|------------------------------|
| 1. Fort Riley, Kans. | 6. Fort Myer, Va. |
| 2. Fort Wingate, N. Mex. | 7. Fort Grant, Ariz. |
| 3. Jefferson Barracks, Mo. | 8. Fort Meade, S. Dak. |
| 4. Fort Walla Walla, Wash. | 9. Fort Robinson, Nebr. |
| 5. Fort Sam Houston, Tex. | 10. Fort Assinniboine, Mont. |

ARTILLERY.

- | | |
|-------------------------------|------------------------------------|
| 1. Fort Hamilton, N. Y. | 4. Washington Barracks, D. C. |
| 2. Fort Adams, R. I. | 5. Presidio of San Francisco, Cal. |
| 3. St. Francis Barracks, Fla. | |

INFANTRY.

- | | |
|-----------------------------|--------------------------------|
| 1. Angel Island, Cal. | 14. Vancouver Barracks, Wash. |
| 2. Fort Omaha, Nebr. | 15. Fort Sheridan, Ill. |
| 3. Fort Snelling, Minn. | 16. Fort Douglas, Utah. |
| 4. Fort Sherman, Idaho. | 17. Columbus Barracks, Ohio. |
| 5. Fort McPherson, Ga. | 18. Fort Bliss, Tex. |
| 6. Fort Thomas, Ky. | 19. Fort Wayne, Mich. |
| 7. Fort Logan, Colo. | 20. Fort Leavenworth, Kans. |
| 8. Fort D. A. Russell, Wyo. | 21. Plattsburg Barracks, N. Y. |
| 9. Madison Barracks, N. Y. | 22. Fort Keogh, Mont. |
| 10. Fort Reno, Okla. | 23. Fort Clark, Tex. |
| 11. Whipple Barracks, Ariz. | 24. Fort Bayard, N. Mex. |
| 12. Fort Niobrara, Nebr. | 25. Fort Missoula, Mont. |
| 13. Fort Niagara, N. Y. | |

ADJUTANT GENERAL'S OFFICE,
Washington, D. C., October 5, 1895.

D.—Statement showing gain and loss in the enlisted strength of the Army during the fiscal year ended June 30, 1895.

GAIN.

Enlisted	5,546
Reenlisted	2,367
From desertion	314
Total	8,227

LOSS.

Expiration of service	2,139
For disability	385
By purchase	459
For fraudulent enlistment	147
By favor	338
As veterans	94
For minority	3
Under General Orders, No. 80, of 1890	2,635
By sentence of general courts-martial	779
For other causes	565
By promotion	12
Died of diseases, etc	147
Retired	129
Deserted	1,165
Total	8,997

Enlisted strength June 30, 1894.....	25, 788
Gain.....	8, 227
	<hr/>
	34, 015
Loss.....	8, 997
	<hr/>
Enlisted strength June 30, 1895.....	25, 018

NOTE.—Indians belonging to the line of the Army, 65; Indian scouts, 40.

There were in the Army (included in the above) 728 men of the hospital corps, which, by law, are excluded from the effective strength; deducting the same leaves an actual strength on June 30, 1895, of 24,290 of the 25,000 enlisted men authorized.

MILITARY PRISON REPORTS.

COMMANDANT'S OFFICE, UNITED STATES MILITARY PRISON,
Fort Leavenworth, Kans., August 6, 1895.

SIR: I have the honor to transmit herewith annual reports of the prison surgeon, chaplain, executive officer and commanding officer of the provost guard, commissary and quartermaster, together with the various tabulated statements showing the number of prisoners received, discharged, transferred, etc., and the work performed by them.

Since rendering my last report this prison has ceased to exist as a military prison, in accordance with the act of Congress approved March 2, 1895. No change in the prison officers has taken place during the past year.

Improvements, permanent and otherwise, have still been carried out as far as possible, and the following exhibit shows in detail what has been done during the past year:

- New storehouse, stone and brick, built in prison yard.
- New latrine for guard, stone and brick, built in prison yard.
- New dynamo room, brick, built in prison yard.
- New latrine for prison officers placed in executive building.
- New tin roof put on quarters of commandant and surgeon and on two single sets of officers' quarters.
- New stone steps placed in front of two double sets of officers' quarters.
- Electric lights put into prison chapel.
- Tunnel for carrying sewage from prison and officers' quarters completed.
- Headstones cut and placed on graves of nine deceased prisoners.
- Ten boundary posts cut for new boundary of prison grounds.
- Dam constructed for forming a new lake near Merritt Lake.
- Brick sidewalk laid from post to city of Leavenworth, a distance of nearly 2½ miles.
- Roadway in front of prison, also walks around the new post assembly hall, paved with vitrified brick.
- Brick sidewalks around prison grounds kept in repair and extended.
- Cut-stone crossing laid at intersection of Grant and Pope avenues.
- Barbed-wire fence put up along Grant avenue.
- Dead trees along Grant avenue and Riverside replaced.
- New post assembly hall completed.
- All prison buildings kept in good repair.
- Two cavalry stables in post of Fort Leavenworth reshungled.
- Five officers' cottages in post reshungled.
- One small cottage near post commander's quarters reshungled.
- Three single sets officers' quarters painted inside and calcimined.
- Post chapel woodwork oiled.
- Ten soldiers' latrines torn down.
- Ravines bridged, to facilitate cavalry maneuvers.

The following items show the expenditures from the appropriation for the fiscal year ended June 30, 1894, and expended during the past fiscal year:

Balance on hand June 30, 1895.....	\$900. 52	
Received from Treasury.....	5, 860. 18	
	<hr/>	\$6, 760. 70
Expended on account of fiscal year 1894.....	6, 483. 26	
Turned in to Treasury.....	277. 44	
	<hr/>	6, 760. 70
		<hr/>

The expenditures were as follows:

For subsistence of prisoners.....	\$5, 803. 30
Reward for apprehension of escaped prisoners	60. 00
Transportation of discharged prisoners.....	619. 96
Total	6, 483. 26

Unused checks (donations sent to posts) were returned and canceled during the year as follows:

Fiscal year 1893, two checks, at \$5 each.....	\$10
Fiscal year 1891, one check, at \$5	5
Total	15

The appropriation made for the support of the prison and the expenditures therefrom are shown by the following:

Items.	Appropriation.	Expended.	Balance.
Subsistence	\$18, 000. 00	\$13, 887. 35	\$4, 112. 65
Tobacco	300. 00	261. 04	38. 96
Forage and hay for bedding.....	2, 000. 00	1, 999. 96	. 04
Stationery.....	1, 000. 00	999. 49	. 51
Clothing and donations.....	8, 000. 00	7, 992. 13	7. 87
Medical supplies.....	1, 500. 00	1, 499. 82	. 18
Advertising.....	100. 00		100. 00
Reward for apprehension of escaped prisoners and expense of pursuit.....	300. 00	227. 68	72. 32
Fuel and general supplies.....	20, 000. 00	19, 999. 78	. 22
Repair of buildings.....	4, 000. 00	4, 000. 00	
Pay of civilian employees and extra-duty pay.....	15, 840. 00	{ 12, 840. 00 2, 270. 40 }	{ 729. 60 }
Transportation of discharged prisoners (including deficiency appropriation).....	7, 500. 00	4, 613. 53	2, 886. 47
Total.....	78, 540. 00	* 70, 591. 18	7, 948. 82

* Including \$145 expended at Alcatraz Island, California, for donations.

Vouchers for transportation of discharged prisoners amounting to \$547.54, chargeable to above appropriation, have been forwarded for settlement by the Treasury. Several accounts for transportation have not yet been presented for payment.

Deducting the amount paid for donations at prison and Alcatraz Island, \$3,175, and the amount paid for transportation of discharged prisoners, \$4,613.53, the expenditures on account of the prison proper would be \$62,802.65, a reduction of \$9,329.35 as compared with the expenditures for the last fiscal year.

The expenditures for the prison (less donations and transportation) for the past seven years were as follows:

During the fiscal year—	
1889	\$79, 818. 92
1890	79, 753. 35
1891	73, 027. 06
1892	72, 687. 90
1893	68, 529. 64
1894	72, 132. 00
1895	62, 802. 65
Total	508, 751. 52

Or a yearly average of \$72, 678. 78.

Donations during the year were made from the appropriation as follows:

To prisoners released at Alcatraz Island, 29, at \$5 each.....	\$145. 00
To prisoners released at posts, 169, at \$5 each.....	845. 00
To prisoners released at prison, 437, at \$5 each.....	2, 175. 00
Total	3, 175. 00

Besides the foregoing, there were paid from the prison mess fund 121 donations to prisoners discharged at prison..... 605. 00

Making in all 756 donations, or a total of..... 3, 780. 00

Amount received from the Treasury.....	71, 800. 00
Expended.....	\$70, 446. 18
Turned into Treasury July 13, 1895.....	1, 353. 82
	71, 800. 00

Received by sales of condemned prison property at auction :	
August 3, 1894	\$0. 65
January 2, 1895.....	7. 00
June 4, 1895.....	66. 90
	<hr/>
Turned into Treasury.....	74. 55
	<hr/>
Received from labor of prisoners, sale of rag carpet, etc. :	
Prisoners' labor.....	1, 036. 00
Sale of rag carpet and mats.....	130. 89
Sale of rags and barrels.....	34. 70
	<hr/>
Total	1, 201. 59

Which amount was turned into the Treasury.

Work for the quartermaster's department was performed during the past year, and the following shows the account of the prison with the quartermaster's department:

Due prison June 30, 1894.....	\$295, 649. 48
Labor during the fiscal year:	
Skilled 11,180 days, at 50 cents per day.....	\$5, 590. 00
Unskilled 18,553 days, at 35 cents per day.....	6, 493. 55
	<hr/>
	12, 083. 55
284,450 brick used by quartermaster's department, at \$7.50 per M...	2, 133. 37
20,259 pieces brick curbing, at 5 cents.....	1, 012. 95
Retransferred to quartermaster's department:	
4,300 pairs shoes, brass screwed, at \$1.79 per pair.....	\$7, 697. 00
2,700 pairs shoes, field, at \$1.03 per pair.....	2, 781. 00
500 campaign hats, at 65 cents.....	325. 00
	<hr/>
	10, 803. 00
	<hr/>
Total.....	321, 682. 35
Due quartermaster's department:	
For clothing and equipage received.....	\$2, 112. 13
For quartermaster stores received.....	74. 08
	<hr/>
	2, 186. 21
	<hr/>
Balance due prison June 30, 1895.....	319, 496. 14

Cut on prison grounds during the past year, 110 cords hard wood, 771 cords soft wood, 3,000 feet oak, green; 72,000 feet cottonwood, green.

There were made and burned in the brickyard 723,000 vitrified brick and 29,000 pieces brick curbing. In addition to these there are now being burned two kilns of brick of about 225,000 each.

The prison farm yielded the following during the past year:

Potatoes, 3,700 bushels; corn, 2,800 bushels; sweet potatoes, 320 bushels; parsnips, 290 bushels; tomatoes, 250 bushels; carrots, 85 bushels; radishes, 65 bushels; lettuce, 50 bushels; pease, 45 bushels; onions, 260 bushels; beets, 278 bushels; beans, 65 bushels; sweet corn, 85 bushels; turnips, 95 bushels; cucumbers, 36 bushels; cabbage, 65,000 heads, and enough more cabbage was raised to make 40 barrels of sauerkraut. Besides the foregoing, there was raised enough small vegetables, such as okra, sal-sify, rhubarb, cantaloupes, watermelons, asparagus, eggplant, etc., to secure a very material addition in the change of the prisoners' food. There was also raised about 210 acres of wheat, which was sold under bids on the field for \$1,890, which was credited to the prison mess fund.

The report of the prison quartermaster shows in detail all the different classes of labor and manufactures done and produced for the quartermaster's department.

The report of the prison surgeon shows a very commendable state of affairs as relates to the health of the prison, but two prisoners having died during the year, one from intestinal troubles and the other being accidentally killed in the stone quarry by a bank of earth caving in.

The care, zeal, and skill with which the prison surgeon has performed his difficult duties deserve the commendation of the higher authorities.

Two prisoners were sent to the insane asylum near Washington, D. C., on the recommendation of the prison surgeon.

The report of the executive officer shows that the discipline of the prison has been excellent. One prisoner escaped during the year, who was recaptured within a short time afterwards, and one other prisoner who had escaped ten years before was apprehended and returned to the prison. During the past seven and a half years there have been 50 escapes and 39 recaptures.

The duties of the executive officer, to which was added the command of the provost guard, have been performed with marked ability and success, resulting in a high state of discipline among the prisoners and in content and zeal among the members of the guard, to which I invite the attention of the higher authorities.

The provost guard has performed its difficult duties excellently well, as usual. By the dissolution of this organization upon the final transfer of the military prison grounds and property to the Department of Justice the War Department will lose the service of one of the best and most faithful and efficient bodies of soldiers ever belonging to the Regular Army. No such onerous duties as pertain to this choice body of men have ever been performed by any part of the Army, and these duties have been done, with rare exceptions, cheerfully, patiently, intelligently, and efficiently.

Doing the distasteful guard duty often fourteen hours daily during the month, or two reliefs every night instead of the usual three reliefs every five nights, I never knew any body of men to make fewer complaints or show greater zeal in doing their duty. I feel that justice requires that this tribute should be placed on record regarding the excellent band of soldiers who have so firmly maintained the discipline of the United States Military Prison.

The report of the prison commissary shows that the messing of the prisoners has been up to the standard heretofore maintained, the food plain, well cooked and served, and as varied as necessary for health.

On June 30, 1894, there were 517 prisoners in this institution. Under the order of the Honorable Secretary of War limiting the number to be sent to this prison there were received only 92 prisoners. Of these, 354 were discharged by expiration of term of confinement, 216 by special order, and 34 were transferred to posts—10 to Fort Sheridan, Ill., 10 to Fort Riley, Kans., 9 to Fort Omaha, Nebr., and 5 to Fort Leavenworth, Kans.

As the appropriation for transportation to their homes of so unusual a number of prisoners was inadequate, the War Department approved a recommendation that transportation be allowed those whose term would expire during the fiscal year and that all releases by special order should be conditional upon forfeiting transportation, of which condition all so released took advantage, so that at the close of the fiscal year no prisoners remained in the prison.

It was found impossible to manufacture discharge suits of clothing as rapidly as required, and therefore all prisoners ordered discharged who were willing to wait for such clothing were provided with discharge suits, and those declining to wait were furnished with such prison clothing as was available, with the numbers taken off. It was found necessary to purchase 23 suits of clothing and 50 hats from the mess fund, which was duly authorized by the War Department. However, all prisoners were furnished fairly good clothing, with no mark of the prison upon them. After the above-mentioned purchase there remained, including \$1,890 received from the sale of a field of wheat, \$2,000.79, which was distributed under orders of the War Department as follows:

Alcatraz Island, Cal.....	\$200. 00
Fort Thomas, Ky.....	50. 00
Fort Sheridan, Ill.....	200. 00
Fort Riley, Kans.....	250. 00
Fort Sam Houston, Tex.....	100. 00
Fort Omaha, Nebr.....	200. 00
Vancouver Barracks, Wash.....	100. 00
Fort Snelling, Minn.....	100. 00
Fort Leavenworth, Kans.....	50. 00
Fort Columbus, N. Y.....	750. 79
Total	2, 000. 79

I desire to record my appreciation of the exceptional ability with which the prison adjutant has executed his manifold duties as well in his present position as in that of the commander of the provost guard.

It is only just to state that the military prison which has ceased to exist had fairly attained to the elements of reformatory discipline designed by the law of its creation second to none other than the few great reformatories in variety of industrial training, in educational advantage, and in the separate-cell system.

In making this final report upon the institution which has ceased to exist and the management of which I held for seven and a half years, I feel it a duty to respectfully express my appreciation of the invariable support of the Honorable Secretary of War, the board of prison commissioners, and the inspectors-general, without which no such results could have been possible, and to state further the gratification I feel from numerous evidences coming to my knowledge from many of the inmates after discharge that good results had been attained in reformation, which is fully attested by many ex-convicts who are now leading honorable, sober, and industrious lives, to the benefit of the public.

Such results can be the sole gratification that can be experienced by those required to perform the melancholy and distasteful duty of enforcing prison discipline, imperative for the protection of society. While this duty can only be disagreeable to those required to carry out the needed correction, as well as those subject to its restraints, still it has been mitigated by the conviction that all necessary exercise of authority has been tempered by a feeling of solemn responsibility to carefully perform every act involving punishment or reward in a strict sense of justice.

Very respectfully, your obedient servant,

J. W. POPE,
Captain and Acting Quartermaster, United States Army, Commandant.

The ADJUTANT-GENERAL UNITED STATES ARMY,
Washington, D. C.

OFFICE OF ACTING COMMISSARY OF SUBSISTENCE,
UNITED STATES MILITARY PRISON,
Fort Leavenworth, Kans., June 30, 1895.

SIR: As acting commissary of subsistence, United States Military Prison, and treasurer prison mess fund, I have the honor to submit the following report for the fiscal year ended June 30, 1895:

Fresh beef for the convicts has been supplied by the Swift Company of Kansas City under contract, the quality of meat and the service of the contractors being most satisfactory.

Other subsistence stores have been purchased from the subsistence department mainly, and in open market at Leavenworth, Kans., besides which fresh vegetables and pork in considerable quantities, the product of the prison farm, have been used in the prison mess to augment the quantity and give variety to the food furnished there.

The following exhibit gives a concise statement of subsistence stores handled, etc., during the year:

Rations issued:	
To enlisted men.....	44, 945
To prisoners.....	131, 615
To civilian employees.....	2, 555
Total	179, 115
Daily average of prisoners.....	360 ³ / ₁₆
Daily average of civilian employees.....	7
Total cost of rations of prisoners.....	\$14, 348. 39
Daily average cost price per ration.....	\$0. 10 ²⁰ / ₁₀₀

The items in bulk are:

Pork, 33,405 pounds; rice, 12,183 pounds; salt, 5,315 pounds; beef, 112,024 pounds; coffee, 13,410 pounds; flour, 180,050 pounds; sugar, 20,114 pounds; candles, 30 pounds; beans, 400 pounds; vinegar, 1,319 gallons; pease, 1,440 pounds; soap, 5,350 pounds; tobacco, 712 pounds; pepper, 330 pounds.

Balance on hand, prison mess fund, June 30, 1895, \$2,000.79. Distributed per telegraphic instructions, Adjutant General's Office, June 26 and 27, 1895, as follows, viz:

Alcatraz Island, Cal.....	\$200. 00
Fort Thomas, Ky.....	50. 00
Fort Sheridan, Ill.....	200. 00
Fort Riley, Kans.....	250. 00
Fort Sam Houston, Tex.....	100. 00
Fort Omaha, Nebr.....	200. 00
Vancouver Barracks, Wash.....	100. 00
Fort Snelling, Minn.....	100. 00
Fort Leavenworth, Kans.....	50. 00
Fort Columbus, N. Y.....	750. 79
Total.....	2, 000. 79

I am, sir, very respectfully, your obedient servant,

GEO. W. GOODE,
First Lieutenant, First Cavalry, A. C. S., Treasurer Prison Mess Fund.

The ADJUTANT, UNITED STATES MILITARY PRISON,
Fort Leavenworth, Kans.

OFFICE OF THE EXECUTIVE OFFICER, U. S. MILITARY PRISON,
Fort Leavenworth, Kans., June 30, 1895.

SIR: I herewith submit the following report of the provost guard for the year ending this day:

Strength at last report was 117 enlisted men. Changes as follows have occurred since then:

GAIN.	
Enlisted in guard	2
Reenlisted in guard	12
By transfer	15
From depots	3
Total	32

LOSS.	
Discharged, expiration of service	14
Discharged by order	24
Transferred	5
Deserted	1
Retired	1
Total	45

Leaving present strength 104.

The messing of the guard still continues to be excellent and well cooked, with considerable variety of diet.

During the past year \$2,526.96 arising from savings on ration, profits of amusement room (\$917.26), and board received from civilian employees, etc., has been expended on the mess, and has enabled the guard to live as well at least, if not better, than any other company in the service.

The amount of the company fund is now \$191.21.

The guard is still armed with Colt's revolvers, old pattern, and Spencer repeating shotguns.

The quarters are very good, fairly well ventilated, and are inspected daily by me.

The provost guard as an organization will become a thing of the past not later than September 30 next, in accordance with the recent act of Congress transferring the military prison to the Department of Justice. It is but fair to say that it has earned an enviable reputation for efficiency and duty well performed, and I trust that the application of each man, either for transfer to other organizations or for discharge, with a view of entering the new civil guard, may meet with favorable consideration.

Very respectfully, your obedient servant,

R. J. C. IRVINE,
Captain, Eleventh Infantry, Commanding Officer, Provost Guard.

The PRISON ADJUTANT.

OFFICE OF THE EXECUTIVE OFFICER, U. S. MILITARY PRISON,
Fort Leavenworth, Kans., June 30, 1895.

SIR: I have the honor to submit herewith the following report for the year ending this day, which I may say will be the last report of its kind, as the military prison ceases to exist to-day, by act of Congress passed March 4 last:

In accordance with the prison regulations requiring same, I have made daily inspections of the shops and cells as well as the other buildings within the grounds. The corral I also inspected at the specified times.

There have been no successful escapes from the prison during the year.

There is no change in number of cells since last report, 488 still being available for ordinary prisoners and 28 extra ones for punishments.

The discipline of the provost guard has been very good, arms and clothing in good condition, and the men are thoroughly familiar with the duties required of them.

There were 67 trials by summary court for minor offenses during the past year. The conduct of the civilian foremen and of the employees has been satisfactory.

Very respectfully, your obedient servant,

R. J. C. IRVINE,
Captain, Eleventh Infantry, Executive Officer.

The ADJUTANT, MILITARY PRISON.

UNITED STATES MILITARY PRISON,
Fort Leavenworth, Kans., June 30, 1895.

SIR: I have the honor to submit the following brief report for the fiscal year ending to-day:

As usual, I have had charge of the library, prisoners' school, the inspection of mail, and the religious department.

Chaplain's work.—The chapel has been open for religious service of some character from three to four times each Sunday. Daily services were held during the Lenten season. New pews have been placed in the chapel and new hymnals have been purchased. More in the line of tangible results has been secured, both among prisoners and others, than in any previous year of my service here. From that part of my regular congregation which has been furnished by the adjoining post, \$363.52 have been contributed for charitable and religious work in other parts, as against \$110 for last year. I have officiated at 11 funerals, 7 baptisms, 3 marriages, and presented 7 candidates for confirmation.

During the month of July I was on leave of absence, and not only served as chaplain at the United States Military Academy each Sunday, but furnished my own supply for the prison pulpit.

Prison school.—The school was closed during August and a part of July and September, upon the advice of the surgeon, owing to excessive heat. The prospective abandonment of the prison materially interfered with the success of the school during the last four months of the year. The average enrollment was 220.9, and the average attendance 211.1. These figures do not include the month of June, when the changes were so numerous as to make a report misleading. In spite of these adverse circumstances, I count myself fortunate in being able to report 451 cases of promotion and 38 graduations, the latter being the result of quite rigid examinations. The school has had my constant personal supervision since the day of its reorganization and enlargement.

Prison library.—One hundred and seventy-one new volumes have been added during the year, and there have been 18,004 calls for books. I have also, through constant communication with publishers and others, been able to secure a regular and sufficient supply of free newspapers and periodicals for all prisoners.

Mail inspection.—My office has attended to the inspection, registration, and stamping or delivery of 11,810 letters and 29,782 newspapers and packages, or 41,592 pieces of mail in all. Of these, 630 letters contained money amounting to \$1,347.16, which required additional registration, and for which the adjutant furnished me his receipt. Five hundred and fifteen of these letters contained \$1 or less, and 152 of them inclosed only 10 cents or less.

In closing my fourth year of service in the institution whose existence ceases to-day, I am comforted by the reflection that my labor has always been largely in excess of the regulations, and that no complaint has ever been addressed to me by those in authority concerning the discharge of the varied duties of my position. On the contrary, there is reason to be grateful for the marked evidences of appreciation which have come to me from those whose commendation is of value.

Very respectfully, your obedient servant,

CHARLES C. PIERCE,
Post Chaplain, U. S. A., Prison Chaplain.

THE ADJUTANT, UNITED STATES MILITARY PRISON.

OFFICE OF THE ATTENDING SURGEON, U. S. MILITARY PRISON,
Fort Leavenworth, Kans., June 30, 1895.

SIR: I have the honor to submit the following report for the fiscal year ended June 30, 1895.
A consolidated statement of the admissions to the sick report, with their dispositions and mean strength, is as follows:

	Commis- sioned.	Enlisted.	Military prisoners.
Mean strength	8	126	358
Remaining sick June 30, 1894.....		4	12
Admitted to sick report:			
For disease.....		63	120
For injury		7	28
Total.....		70	148
Returned to duty.....	1	73	152
Transferred to Government Hospital for Insane.....			2
Discharged on surgeon's certificate of disability.....			4
Died			2
Remaining sick June 30, 1895.....		1	
Average number of sick daily.....	0.035	4.39	8.12

The enlisted admission rate for the year was 555.55 per 1,000 of strength, while that for prisoners was 413.41. The rate for the fiscal year ended June 30, 1894, was for enlisted men 777.77 and for prisoners 905.79 per 1,000 of strength. Excluding injuries, to which prisoners are more liable than enlisted men, the enlisted admission rate per 1,000 of strength would be 500, while that for prisoners would be 335.47. This difference in rates is almost entirely due to the fact that the enlisted men only are subject to venereal diseases and diseases caused by alcohol, and if these two classes of diseases be excluded in estimating their rate it would be but 349.20 per 1,000, differing but slightly from the rate for the prisoners.

The inference to be drawn from these statistics is that the health of the prisoners is practically the same as that of the guard.

In previous years certain diseases prevailed among the prisoners to a much greater extent than among the enlisted men, due to local conditions to which the prisoners were subject, as quarters, food, and employment. During the period covered by this report this difference is not nearly so marked. The diseases referred to are typhoid and malarial fevers, gastrointestinal diseases (including diarrhea), catarrhal affections of the respiratory organs, rheumatism, and pneumonia.

Seven cases of typhoid fever occurred among the prisoners, 1 case among the enlisted men, and 5 cases among those attached (civilian employees, and families of enlisted men and employees). These numbers are relatively smaller than those of the preceding year, except among those attached, in whom the disease occurred in relatively greater numbers. The water supply (Missouri River) is considered responsible for the appearance of this disease.

Malarial diseases likewise prevailed in a much smaller ratio than in former years, and affected all classes (prisoners, enlisted and attached) to about the same extent.

Up to the fiscal year ended June 30, 1894, gastrointestinal diseases (nearly all of which were cases of diarrhea) were the cause of more admissions to the sick report than all other diseases combined. That year showed a considerable diminution (relative) of such cases, while in the year under consideration this class of diseases had practically disappeared. Changes in the dietary, improvement in the preparation of the food, and increased air space per individual have no doubt produced this result.

Catarrhal affections of the respiratory organs also were not nearly as common among the prisoners as in previous years, and follicular tonsilitis, which during the preceding year furnished 9 per cent of the total admissions to the sick report, occurred not once during the present year, constituting less than 0.7 per cent of the admissions. The absence of overcrowding, greater care in the ventilation of the cell floors, and especially the construction of a complete sanitary system of sewers, will explain the falling off in numbers of this class of diseases.

Rheumatism and pneumonia occurred among the prisoners to about the same extent as in former years.

But 1 case of contagious disease occurred, namely, a case of diphtheria, the origin of which could not be discovered; fortunately no other cases appeared.

There were 2 deaths among the prisoners; one was caused by accident, and the other was caused by peritonitis following intestinal obstruction.

Four prisoners were discharged for disability; 2 for loss of fingers from machinery accidents, and the other 2 for pulmonary consumption.

Two prisoners became insane and were transferred to the Government Hospital for the Insane.

Among the enlisted men venereal diseases furnished the greatest number of admissions to the sick report, gastrointestinal diseases coming next in order of frequency.

With the exception of typhoid and malarial fevers, to which reference has already been made, the remaining diseases affecting the enlisted men were unimportant either as regards their frequency of occurrence or from a sanitary point of view.

There were no deaths or discharges for disability of enlisted men.

I desire to express my appreciation of the prompt action that the commandant has always taken upon all of my hygienic and sanitary recommendations.

With this report ends the medical history of the military prison as such, and in conclusion I must add that the data here presented make a most gratifying exhibit of the general health of its inmates during the year.

Very respectfully, your obedient servant,

CHAS. RICHARDS,
Captain and Assistant Surgeon, U. S. A., Attending Surgeon.

The PRISON ADJUTANT.

UNITED STATES MILITARY PRISON,
OFFICE OF THE ASSISTANT QUARTERMASTER,
Fort Leavenworth, Kans., June 30, 1895.

SIR: I have the honor to submit the following report of the work of this office during the fiscal year 1895:

SHOE SHOP.

There were employed in this shop 1 inspector, at \$116.66 per month, and 1 instructor, at \$100 per month, and prisoners varying in number from 10 to 50, amounting to 3,643 days, at 50 cents per day. Total value of labor, \$1,821.50.

There were manufactured during the year 6,911 pairs of calfskin shoes, at an average cost of \$2.18 per pair.

CARPENTER SHOP.

In this shop from 2 to 5 prisoners have been employed in the manufacture of stores for the quartermaster's department.

Total number of days, 932½, at 50 cents per day, \$466.25.

The following articles were manufactured, at the average cost set opposite each article:

65 barrack chairs	\$1. 01
140 mess tables	5. 00
3,807 mess stools.....	.33
1,833 stable brooms.....	.31
100 stable-broom handles.....	.07
20 company field desks.....	7.05
2 food cars.....	44.93

BROOM SHOP.

There were employed in the broom shop from 2 to 5 prisoners, amounting to 1,060 days, at 50 cents per day, \$530.

The following articles were manufactured, at the average cost set opposite each:

24,829 corn brooms.....	\$0. 16½
30 rope mats.....	.85

BLACKSMITH SHOP.

There were employed in the blacksmith shop from 1 to 3 prisoners, amounting to 115 days, at 50 cents per day, \$57.50. The following articles were manufactured: One hundred legs and braces for mess tables; 12,000 iron rods for mess stools; 80 corner irons for field desks.

TIN SHOP.

There were employed in the tin shop 1 foreman, at \$100 per month, and 2 to 8 prisoners, amounting to 1,686 days, at 50 cents per day, \$843.

The following articles were manufactured, at the average cost set opposite each:

1,248 wash boilers, assorted sizes.....	\$1.31
356 coffee boilers, assorted sizes.....	.67
1,247 teakettles, assorted sizes.....	.64
36 army range kettles, assorted sizes.....	.70
221 steamers, round, assorted sizes.....	.35
544 pot covers, assorted sizes.....	.06
1,900 bake pans, assorted sizes.....	.35
1,199 square boilers, assorted sizes.....	1.75
557 round boilers, assorted sizes.....	1.50
518 coffeepots, with handles, assorted sizes.....	.54
48 coffeepots, with bail, assorted sizes.....	.60
97 dish pans, assorted sizes.....	.75
27 dippers, assorted sizes.....	.20
16,882 stovepipe joints, assorted sizes.....	.12
3,639 elbows, assorted sizes.....	.13
60 "T" joints, assorted sizes.....	.25
476 taper joints, assorted sizes.....	.12
832 stovepipe collars, assorted sizes.....	.05
508 flue stoppers, assorted sizes.....	.08
6 fire screens, assorted sizes.....	1.25
13 teapots, assorted sizes.....	.30
19 stew pans, assorted sizes.....	.25
355 saucepans, assorted sizes.....	.40
6 skimmers, assorted sizes.....	.15
382 dampers, assorted sizes.....	.13

RECEIPTS.

Sales of scrap leather, scrap copper, and condemned property.....	\$605.35
Sales to officers—fuel, forage, mineral oil.....	656.39
Clothing and equipment.....	184.68
Total.....	1,446.42

EXPENDITURES.

Regular supplies account, tinware, etc.....	\$8,563.26
Incidental expenses, clerical services, etc.....	2,018.00
Army transportation account, field desks, stable brooms, etc.....	1,429.04
Clothing and equipage, calfskin shoes, etc.....	5,708.91
Total.....	17,719.21

There have been transported from this prison to general depots and to various other points 515,210 pounds of freight, for which 367 bills of lading were issued.

There have been 618 requests issued, covering the transportation of 487 prisoners returning to last place of enlistment or their homes, and 131 escorts in charge of prisoners, or returned to their proper stations.

Very respectfully,

GEORGE B. DAVIS,

First Lieutenant, Fourth Infantry, A. A. Q. M.

The ADJUTANT, UNITED STATES MILITARY PRISON,

Fort Leavenworth, Kans.

REPORT OF THE INSPECTOR-GENERAL.

WAR DEPARTMENT,
INSPECTOR-GENERAL'S OFFICE,
Washington, D. C., September 27, 1895.

SIR: I have the honor to submit the following report of matters pertaining to this department for the fiscal year ending June 30, 1895:

INSPECTION DISTRICTS.

Under provisions of General Orders, No. 18, Adjutant-General's Office, March 30, 1895, a radical change in the system of inspection duty went into effect on April 30, 1895.

The country was divided into six inspection districts, whose limits were determined by the questions of economy of travel and equalization of work. The number of acting inspectors-general was reduced from six to one.

The establishment of new districts necessitated a complete reassignment of the inspection duties; but the new system is now established, and during the coming year this most important branch of military duty can be thoroughly and uniformly administered and act directly under the Secretary of War and the Commanding General of the Army in the manner which was adopted when it was organized under Washington, and has generally prevailed.

OFFICERS AND DUTIES.

Brig. Gen. J. C. Breckinridge, Inspector-General of the Army, in charge of the Inspector-General's Office, War Department, Washington, D. C.

Col. R. P. Hughes, inspector-general, Department of the East, Governors Island, N. Y., until April 30, 1895, when he was assigned to duty as inspector-general of the North Atlantic district, with station in New York City, N. Y., per General Orders, No. 18, Adjutant-General's Office, current series.

Col. G. H. Burton, inspector-general, continued on duty in the office of the Inspector-General of the Army until April 30, 1895, when he was assigned as inspector-general of the Pacific district, with station in San Francisco, Cal., per General Orders, No. 18, Adjutant-General's Office, current series.

Lieut. Col. H. W. Lawton, inspector-general, was on duty at Los Angeles, Cal., until September 27, 1894; inspector-general, Department of the Colorado, Denver, Colo., from September 28, 1894, to April 30, 1895, when he was assigned as inspector-general of the Southern district, with station at Santa Fe, N. Mex., per General Orders, No. 18, Adjutant General's Office, current series.

Lieut. Col. P. D. Vroom, inspector-general, Department of Texas, San Antonio, Tex., until April 30, 1895, when he was assigned as inspector-general of the Middle district, with station at Chicago, Ill., per General Orders, No. 18, Adjutant-General's Office, current series.

Maj. J. P. Sanger, inspector-general, continued on duty in the office of the Inspector-General of the Army until April 30, 1895, when he was appointed military secretary to the Lieutenant-General of the Army, per General Orders, No. 28, Adjutant-General's Office, current series.

Maj. E. A. Garlington, inspector-general, awaiting orders at Fort Riley, Kans., until April 24, 1895, when he reported for duty in the office of the Inspector-General of the Army; assigned as inspector-general of the South Atlantic district, and assistant to the Inspector-General of the Army, April 30, 1895, per General Orders, No. 18, Adjutant-General's Office, current series.

Maj. Francis Moore, Fifth Cavalry, detailed as acting inspector-general of the Northern district, with station at Denver, Colo., April 30, 1895, per General Orders, No. 18, Adjutant-General's Office, current series.

PERSONNEL.

Casualties. Col. E. M. Heyl, inspector-general, died January 2, 1895.

Promotions. Lieut. Col. G. H. Burton, inspector-general, with the rank of colonel, January 2, 1895, vice Heyl, deceased.

Maj. P. D. Vroom, inspector-general, with the rank of lieutenant-colonel, January 2, 1895, vice Burton, promoted.

Changes. Capt. E. A. Garlington, Seventh Cavalry, inspector-general, with the rank of major, January 2, 1895, vice Vroom, promoted.

Maj. Francis Moore, Fifth Cavalry, detailed as acting inspector-general of the Northern district April 30, 1895.

Lient. Col. Evan Miles, Twentieth Infantry, continued on duty as acting inspector-general, Department of California, until May 31, 1895, when he was relieved by Special Orders, No. 75, Adjutant-General's Office, current series.

Lient. Col. J. M. Bacon, First Cavalry, continued on duty as acting inspector-general, Department of the Columbia, until November 17, 1894, when he was relieved by Special Orders, No. 203, Adjutant-General's Office, 1894.

Maj. (now Lient. Col.) Theodore Schwan, assistant adjutant-general, detailed as acting inspector-general, Department of Dakota, July 17, 1894, per Special Orders, No. 140, Adjutant-General's Office, 1894; relieved April 30, 1895, per Special Orders, No. 75, Adjutant-General's Office, current series.

Maj. J. M. Hamilton, First Cavalry, continued on duty as acting inspector-general, Department of the Platte, until April 30, 1895, when he was relieved by Special Orders, No. 75, Adjutant-General's Office, current series.

Maj. A. R. Chaffee, Ninth Cavalry, continued on duty as acting inspector-general, Department of the Colorado, until October 4, 1894, when he was relieved by Special Orders, No. 203, Adjutant-General's Office, 1894.

Maj. C. C. Carr, Eighth Cavalry, detailed as acting inspector-general, Department of the Columbia, November 18, 1894, Special Orders, No. 249, Adjutant-General's Office, 1894; relieved April 30, 1895, by Special Orders, No. 75, Adjutant-General's Office, current series.

Lient. Col. W. J. Volkmar, assistant adjutant-general, detailed as assistant to the inspector-general, Department of the East, July 24,

1894, per Special Orders, No. 140, Adjutant-General's Office, 1894; relieved April 30, 1895, by Special Orders, No. 75, Adjutant-General's Office, current series.

Capt. H. J. Nowlan, Seventh Cavalry, continued on duty as assistant to the inspector-general, Department of the East, until July 24, 1894, when he was relieved by Special Orders, No. 140, Adjutant-General's Office, 1894.

Capt. J. M. Lee, Ninth Infantry, continued on duty as assistant to the inspector-general, Department of the Missouri, until April 30, 1895, when he was relieved by Special Orders, No. 75, Adjutant-General's Office, current series.

The following statement indicates some of the work performed by the officers of the Inspector-General's Department during the last fiscal year:

		Disbursements.			
Officer.	Department or district.	Number of inspections.	Amount involved	Posta.	Staff posta, soldiers' homes, branches, prisons, depots.
Brig. Gen. J. C. Breckinridge	Washington, D. C.	8	\$4,609,720.44		
Col. R. P. Hughes	East and North Atlantic	79	5,639,570.23	13	13
Lieut. Col. W. J. Volkmar	East	81	7,700,093.37		
Col. E. M. Heyl	Missouri	33	3,388,503.35		
Capt. J. M. Lee	do	74	7,951,006.52		
Col. G. H. Burton	Washington, D. C. and Pacific	56	11,010,772.07		
Lieut. Col. H. W. Lawton	Colorado and Southern	46	3,684,771.32		
Lieut. Col. P. D. Vroom	Texas and Middle	191	11,732,984.43		
Maj. J. P. Sanger	Washington, D. C.	64	7,050,481.40		
Maj. E. A. Garlington	South Atlantic	28	4,556,107.57		
Maj. F. Moore	Northern	1	1,568,494.48		
Lieut. Col. E. Miles	California	61	2,494,561.13		
Lieut. Col. J. M. Bacon	Columbia	25	799,623.32		
Lieut. Col. T. Schwan	Dakota	41	2,731,635.48		
Maj. J. M. Hamilton	Platte	46	3,539,364.99		
Maj. C. C. Carr	Columbia	19	247,636.70		
Total		783	78,731,347.79	55	

Officer	National cemeteries.	Recruiting stations.	Special investigations.	Sets of inventory and inspection reports.	Total number of inspections.	Number of persons inspected.	Ascertained cost price of property inspected.	Miles traveled.
Brig. Gen. J. C. Breckinridge					16	17,334		7,944
Col. R. P. Hughes			5	264	400	4,747	\$31,077.18	7,506
Lieut. Col. W. J. Volkmar		3		36	120		8,574.39	3,495
Col. E. M. Heyl		3	3	60	100		80,766.74	4,905
Capt. J. M. Lee	1	8	3	220	317	641	37,520.03	12,024
Col. G. H. Burton				8	64		16,847.82	5,090
Lieut. Col. H. W. Lawton			3	162	211		43,389.55	8,210
Lieut. Col. P. D. Vroom	8		1	178	302	2,119	132,778.54	8,898
Maj. J. P. Sanger				25	94		2,351.34	3,579
Maj. E. A. Garlington			1	105	150	1,482	35,968.75	5,090
Maj. F. Moore				38	66	1,797	6,484.60	1,020
Lieut. Col. E. Miles	1	1	3	161	241	1,636	85,896.82	2,569
Lieut. Col. J. M. Bacon				86	116	96	15,304.57	3,242
Lieut. Col. T. Schwan	1	2	5	268	332	2,826	74,463.17	6,873
Maj. J. M. Hamilton	1		1	160	217	1,477	41,916.94	5,810
Maj. C. C. Carr				70	90	569	19,473.38	1,983
Total	12	17	25	1,861	2,838	35,271	\$533,146.82	85,892

After so radical a change of system and sweeping a change of personnel, it may perhaps be permitted me to invite attention to the arduous and exacting character of the duty performed by these officers, who are called away from their stations months at a time, working without regard to hours, and doing their utmost to see and submit and assist the work of the Army everywhere. They know that their efforts have been fairly appreciated and sustained by our military superiors and their labors have not been in vain, and now in reverting to the antebellum system, the task before them, if performed as creditably as heretofore, will demand the best exertions of those upon whom the duty devolves. How well the work has been done, at least by the officers recently relieved from the duty, deserves my hearty recognition, and I am sure the Army generally recognizes the zeal, importance, and efficiency of their service.

MILITARY POSTS.

During the year 55 garrisoned military posts and camps have been inspected, distributed among the several departments as follows: Department of the East, 13; the Missouri, 8; the Platte, 7; California, 7; Dakota, 12; the Colorado, 1; and the Columbia, 7, indicating that in the past fiscal year this branch of inspection work has been completed in only three departments, viz: The Platte, Dakota, and the Columbia. This is exceptional, and both the previous and current years will present a more complete record in this work.

During the year 10 military posts have been abandoned and 3 established, making a net loss of 7.

Changes in station of all or a portion of each regiment have been made except in 3 regiments of artillery and 7 of infantry. Including regimental headquarters, there have been a total of 133 changes of companies, etc., made during the year, which are distributed among the three arms as follows: Cavalry, 45; artillery, 8; and infantry, 80—or 40.5, 12.5, and 35.5 per cent of the number of organizations in each arm, respectively. A statement showing the approximate strength of garrisons for several consecutive years may indicate the progress which has been made in the direction of uniting regimental organizations and concentrating the scattered troops.

Year.	Number of military posts, camps, etc., garrisoned by—													Indis. actual regi- ments.	More than a regiment.
	Detachment.	company.	2 companies.	3 companies.	4 companies.	5 companies.	6 companies.	7 companies.	8 companies.	companies.	10 companies.	11 companies.	12 companies.		
1893.	0	18	16	15	10	8	6	8	4	12	0	2	1	33	
1894.	2	15	16	15	9	10	4	8	5	12	1	1	1	33	
1895.	2	10	15	10	12	7	4	12	5	9	1	2	0	33	

Probably the most suggestive feature of the foregoing statement is the reduction which has been made in the number of posts garrisoned by one, two, and three companies, and the increase in those having a garrison of a regiment or more. In 1893 there were 18 posts, each having a garrison of only 1 company, and at present there are but 10, a reduction of 44½ per cent. On the other hand, since 1893 the number of posts which are garrisoned by an entire regiment have increased

from 3 to 7, and those having a garrison of more than a regiment have increased from 1 to 4, or 133½ and 300 per cent, respectively. The first requirement of soldiers is the ability to act effectively in masses, and though this is far more important in the field than in garrison, evidently the opportunity to acquire this habit and quality is being improved.

Officers. The officers are generally reported competent and efficient, and a number of them are mentioned as having distinguished themselves or shown special efficiency in some department of duty. As an indication of the prevalence of harmony it may be stated that out of the 678 officers present at these inspections only 1 had a complaint to make.

Enlisted men. An improvement still appears to be noticeable in the character of the men enlisted during the year. The hard times and new methods of recruiting seem to have attracted the attention of deserving young men to the desirable features of the service, which offers manly and well-paid occupation in many respects more comfortable than can be found upon a farm.

The three-year enlistment is again under trial, but has not been in operation long enough to draw any reliable inference of its effects upon the quality of the Army, the instruction, discipline, or the contentment of the soldier, the subject of desertion, or the general subject of recruiting; but the requirements and qualities of a short-service army are sufficiently understood by all professional soldiers. It imposes more exacting duties upon the officers, demands greater attention to details and practice of field exercises, and lends itself readily to an organized reserve and a perfect preparation and organization for defensive war. Our country has suffered much at times from its disadvantages, and a serious effort may be necessary to attain the best results from it.

Discipline. The reports indicate that the discipline of the Army is generally very good; at some posts it is reported as exceptionally good. During the past year, or since the last annual inspection in the Department of Dakota, which is selected because this particular data is more complete from there than from any of the other departments, the percentage of soldiers who have not been in confinement is 84.3, which is about the same percentage as last year for the Department of the Missouri.

The tendency to refer minor infractions of discipline to summary courts is still apparent. It is thought that the company commander should handle a large percentage of such cases. The company may be termed the unit of discipline, and the good company commander should rarely have occasion to call to his assistance the machinery of a court-martial, except to rid the service of the demoralizing influence of incorrigible characters; but he must receive the full support of superior authority within legal limits, and be held to a strict accountability in the exercise of this most important part of his duty. The improving system of recruiting, the higher requirements adopted, and the greater care exercised by recruiting officers in excluding undesirable or unworthy men from service in their own regiments seem to be bearing legitimate fruit.

Instruction. Practical instruction of companies and troops in level ground and parade movements seems to have been thorough and complete. At a few posts where the size of the garrison, the limits of the reservation, and the nature of the country were favorable, practical instruction has been carried beyond these limits, but there are still posts where exercises under service con-

ditions have been scarcely attempted, or have been confined to practice marches and the solution of the more simple problems in minor tactics.

The number of officers in our service who have had experience in handling large masses of troops is growing less and less each year, and there are many on its rolls who have never seen a brigade of troops. Can a satisfactory condition of instruction exist under such circumstances? Has not the time come when it is absolutely essential, in order to instruct the younger officers of the Army how to best apply the theoretical knowledge which they have acquired at the Military Academy and at the service schools, to occasionally concentrate troops at some central points, and engage in a series of maneuvers approximating as nearly as possible to the actual conditions of war, forbidding the exercise of any maneuver which can be performed while in garrison?

Troop and company commanders acting merely independently are probably as thoroughly versed in their duties as could be desired, but as subordinate commanders under service conditions, some of them may have had inadequate experience, or those who have had sufficient experience date it back thirty years, and since then many elements of the soldier's trade have radically changed.

There was never a time in the history of our Army when the officers and men were better prepared *theoretically* to meet an enemy than now; what they need is practice, and, next to war, a simulated condition of war, with a system of thorough and intelligent inspection, is the best school. This instruction with large units is now more important than ever before. With a new arm, new drill regulations, a large number of well-educated but inexperienced officers, the time is ripe for practice of a practical kind, with forces sufficiently large to simulate war conditions. This is the essential element of modern soldierly life and instruction. We have had some tentative experiments, as at Chilocco and Camp Crook, in this direction; and the field exercises and maneuvers ordered in several departments, notably in that of Arizona in 1887 and 1888, after the Geronimo campaign, are said to have given excellent results.

It is reported that at several posts the thorough practical instruction of the troops is seriously impeded by the limited area of the drill grounds, and this defect probably has a more extended application now than heretofore since the partial concentration of troops at railway centers. Some minor organizations are reported to have had field service, camping, and practice marches during the year, or have been out on actual field service.

General Orders, No. 23, Adjutant-General's Office, 1895, prescribe that the officers' lyceums shall consist of two classes, one by the captains and the other by the lieutenants, and that instruction in these classes shall be given separately. With this exception the organization of these institutions remains as heretofore, and their administration is reported to be in accordance with existing orders.

It would seem, with a National Academy, four service schools, and examination for promotion, that the theoretical education of our officers is sufficiently guarded. Well-established military journals afford a ready and convenient means of disseminating the views of military writers and open up discussion on military topics. It seems to be the consensus of opinion of the officers most directly affected that there are points in our methods of instruction, such as the lyceum, that may well be modified so as to be better suited to the conditions of our service and productive of good more nearly commensurate with the annoyances.

The field officers of the British service are tested before promotion according to the following syllabus:

1. Finding his position in the field on a 1-inch map, and in identifying points, both distant and near.

2. Showing with colored pencils, on a contoured map, the dispositions of a force consisting of one or two battalions, one battery (or a portion of one), and one or two squadrons, in compliance with the conditions of a tactical problem. (The map used is not to be one of country adjacent to the place of examination.)

3. Indicating on a map the dispositions and writing the orders to commanders of units by the commanders of a force (which will be such as specified in 2) for the solution of two tactical problems. These problems will be set by the board. Each will comprise some definite military operation of one or more named forces. (Time to be allowed, two hours.)

4. Handling in a tactical operation in the field a regiment, battalion, or battery, at the option of the officer.

5. Commanding in the field a force of all arms (as specified in 2) in any operation of minor tactics and issuing the necessary orders within half an hour of receiving a statement of the tactical problem to be solved.

Post schools. These schools are very generally maintained at posts from which reports have been received, and in most cases the progress and results are reported fair and satisfactory. In one instance the system is reported to be a failure. In a few cases the buildings used for the purpose are reported unsatisfactory, the rooms limited in size, and not properly lighted or sufficiently ventilated. At one post it is stated that military duty interferes with attendance. The restrictions and safeguards which have been thrown around the subject of recruiting in the past few years may prevent the addition to the ranks of men who are not possessed of a fair degree of education; and hence the utility of the future maintenance of post schools for enlisted men may become a question about which there will be an honest difference of opinion. It has already been noted that foreign armies do rather more, and do it more effectively, than ours in this particular, and the problem for us is how far we can make schools practically useful in turning out the best soldiers.

Small-arms target practice. Under the operations of General Orders, No. 2, Headquarters of the Army, 1895, small-arms target practice was suspended from January 8 to March 15, 1895. The need of suitable tracts of land for target purposes is reported at several posts. The inspecting officer states that at Fort Logan, Colo., the range is not adapted to the wants of the garrison there, and that after this year, when more extended practice is had, it will be totally inadequate. Whether or not the facilities for this practice and the requirements are such as to thoroughly prepare the troops for the trying conditions of actual warfare may not be known until an emergency arises, when the lack of thorough preparation would soon indicate any weakness.

Colonel Hughes is the only officer of the Department whose inspections continue within their present lines practically unbroken at the end of the fiscal year, and the following extract from his report is submitted as illustrating the present condition and requirements as viewed by the inspector:

Since submitting my last annual report the congregating of large numbers of recruits at depots has been discontinued and the expense incident to transporting them has been greatly reduced, and so far as my information goes the change has had no deleterious effect.

In the periodical examination of the disbursements of the recruiting service it seems that the bills for advertising in the daily papers are unnecessarily large. The few lines in small type are not apt to attract attention, while the posters now so extensively circulated are in evidence in most of our towns and villages.

ORGANIZATION.

The most urgent need of our organization at the present time is a numerical increase. We have for line service 60 batteries of artillery, 200 companies of infantry, and 100 troops of cavalry. As to the former, it is only necessary to say that the chain of coast defense is only as strong as the weakest link. With our present artillery force this simply means that the weakest point would be an entire absence of all resistance to an invader.

The 200 companies of infantry represent a numerical enlisted strength of 13,000 men, or an ordinary division of troops.

The 100 troops of cavalry represent a numerical enlisted strength of 6,500, or three brigades of medium strength for field service.

Theoretically, our cavalry is in excess in proportion to the other arms of the service. But in case of actual war, cavalry possesses a maximum value at the opening of operations, and the impossibility of creating serviceable cavalry out of raw levies is too well understood to require argument here.

The fact that we keep on foot an infantry force equal to but one division tells the tale of our weakness in that branch.

This feature of our organization pertains to the political side of our national affairs, and in inviting attention to the situation we have acquitted ourselves of all responsibility.

The condition of our country has become such that it would seem possible to extend our organization so as to have some recognized normal order of battle. As matters now stand, all fixed organization stops with the regiment.

The ease and quickness of communication and assemblage are now such throughout our whole occupied territory that it would appear practicable to carry the organization of the troops a step further, and combine regiments into brigades in order that the aids of mutual interests and comradeship may be extended.

The present organization of commands on geographical lines distributes the force to general officers very unequally. According to the last Army Directory, one general officer has command of but 21 companies, while his fellow of like grade has 49 companies.

DISCIPLINE.

The troops in this inspection seem to be in a fair state of discipline. I do not wish to be understood as intimating that I consider the discipline as rigid as it should be, or as deeply rooted as it would have to be in case of actual field service against a thoroughly disciplined enemy, but it is sufficiently firm to answer ordinary requirements.

The trials of commissioned officers by general courts martial in the Department of the East have been more numerous during the past year than usual, but fortunately for the credit of the service the pleadings were not of a very grave character.

INSTRUCTION.

The troops of this inspection are not instructed under service conditions. They are proficient in ceremonies, routine garrison duties, such as police, guard, etc., and in that portion of the drill regulations that relates to exercises in close order, but in extended-order drill over unknown country and on varied ground, such as they would be compelled to operate over in service, they are entirely without instruction. The work done has a great value in its disciplinary effect, but that portion that is intended to fit them for actual work is not taught. The fault does not lie with the troops, for the means of imparting this information to them is not provided. The reservations are so limited in area that instruction of value in extended order is not possible.

In order to be prepared to speak with knowledge on this very important subject, I have taken the risk of being personally held for damages on different occasions, and have had commands operate on private grounds, and from my observations I feel fully warranted in stating my conclusions.

With the present system of instruction our fighting tactics will have to be taught under fire, for they are not understood now by the men, and I fear that many of the commissioned officers could not apply them most advantageously. I can see but one way to remedy this very serious deficiency, and that is by hiring territory at some central point which can be reached by several commands by reasonable marches, and having a well-matured course of instruction in field work.

I had this subject in mind when I passed through the Adirondack Mountains on my last prescribed tour of duty. Of course such a cursory glance at the situation does not authorize me to speak with certainty, but it seems to me that it would be quite practicable to secure a suitable location in that district for such work. The assembling there of the Ninth Infantry from Madison Barracks, the Twenty-first

Infantry from Plattsburg Barracks, and the Thirteenth Infantry from Forts Porter, Niagara, and Columbus, together with the cavalry from Fort Ethan Allen, Vt., need not necessarily be expensive. These troops, with the exception of the Thirteenth Infantry, could make the journey by marching. In doing so other practical experiments could be made in the way of determining with what and how the soldier should be loaded; what field rations would best answer our requirements; what form of bivouac or cantonment is safest and best, etc. The soldier should, in such operations, be made to comply as nearly as practicable with war conditions, and not be accompanied with transportation for a bed and easy chair, but compelled to find himself a bed in the brush and taught to sit on his heels.

If my memory does not cheat me, it took eighteen months for the old Roman Marius to inure his enervated legions to the hardships of war sufficiently to feel that he was safe in putting them to the final test of actual battle. The present system of indulgence in our service seems to warrant the assertion that it would require a long time to harden the men down to the point that would enable them to endure hardships, privations, and hard knocks with the patient resignation of the seasoned soldier.

The course in small-arms target practice is in need of modification. The drill regulations of our country and of others provide for offensive operations, against positions held by the enemy, by rushes. Actual tests show such an unreadiness in our men to fire quickly that the party on the defensive can rise from cover, deliver a volley and drop back under cover before a single shot is fired at them from any part of the attacking line. This can best be remedied by practicing the troops in firing at moving and disappearing targets, which I think should be done.

Capt. S. E. Blunt, of the Ordnance Department, was a member of the board that selected and advised the adoption of the present magazine rifle, and is therefore familiar with all of its peculiarities. It would certainly be advisable to have him modify and amend his Small-Arms Firing Regulations to meet additional wants and to supply deficiencies.

The practice firing of the field artillery in this inspection does not bear any semblance to the work expected of it in actual campaigning. It will be exceedingly difficult to secure any such instruction as long as these light batteries are not assembled, or so located that they can all make use of the same range. The area required for such work is too great to justify the expenditure of money that would be necessary to secure it.

If a well-considered plan were drawn up, with full details of requirements and purposes, I think it would be quite possible to secure the cooperation of the field batteries of the National Guard of a group of States to unite with the General Government in obtaining and maintaining such a range as is needed. For instance, the batteries of the United States stationed in the North Atlantic district might unite with those of the National Guard of New York, New Jersey, Connecticut, Massachusetts and Vermont and establish a range at some approximately central point to which they could resort during the summer months, at such dates as might be agreed upon, for practice firing.

The coast artillery in this inspection still continues to hold its practice firing at stationary targets. As their targets in actual warfare would be under way, it would, it should seem, be very desirable that at least a portion of the annual practice should be at moving targets.

SIGNALING.

The instruction in visual signaling is generally confined in this inspection to work with flags. The atmospheric conditions are such that work with the heliograph is exceedingly uncertain and can not be depended upon from hour to hour. There is some instruction in the use of electric telegraphy, but this is confined to a few posts where the materials have been supplied. I have never yet been able to get satisfactory results in the transmission of cipher messages, but as our code is not issued to officers generally, it is not possible to give practice in its use.

HOSPITAL CORPS.

The detachments of this corps serving at the various posts seem to be fairly instructed in rendering first aid, and in properly caring for patients.

In concluding this portion of my report, it is incumbent upon me to say that so far as my experience enables me to form a just judgment the system of extended-order drill exercises, as prescribed in our drill regulations, does not give promise of good results when brought into play in face of an enterprising enemy. Even on the drill field there is a want of coincidence and harmony of action that is disconcerting and confusing, and I think some simpler method that insures unity of action should be diligently sought.

My opinion is that the system is not well adapted to our political condition. It is not the policy of our Government to keep a large standing army on foot, but to base

the protection of the State upon the patriotism, loyalty, and courage of her citizens. In case a large army is needed it is to be organized out of the mass of her able-bodied citizens. It is well understood that in uniting undisciplined, uninstructed levies into companies and battalions, the units of organization must, per force, be limited to such a number as can be governed and instructed properly and to advantage. Past experience of many thousands of captains will warrant us in saying that a company of from one hundred to one hundred and twenty men is all that a company commander can properly care for and manage. In a month after a campaign actually opens, the company will, judging from well-established historical experiences, fall to between sixty and eighty men. This is too small a unit to operate with in the manner prescribed in our drill regulations. Their exertions would be expended in weak attacks, without coincidence of effort, and would invite defeat; whereas heavy blows, well combined, promise success. Now, with companies so small that independent efforts are unwarranted, we must look for some other method. In studying this problem I have convinced myself that the safest course for us to pursue, national politics and army officers both considered, is to restrict our companies to such a number as can be well managed by company officers and make a combination of these companies for the working unit. In other words, take the battalion of four companies as the unit in battle, and have this unit directed by a chief and staff. This in all probability would eventually lead to the formation of regiments of four battalions each, but that would be a matter for future consideration. The necessity now is to obtain a system of drill that can be made applicable under fire.

POST SCHOOLS.

The schools for enlisted men are maintained at posts in accordance with existing regulations and orders. It is not possible to form a reliable estimate of the value of the work accomplished by them. It is quite evident that some of them accomplish much good, while others, owing to obstacles that are difficult to overcome, do not exert much influence on the men.

Schools for the children of enlisted men are maintained at posts where it is impracticable for them to attend the schools in the vicinity of the post.

LYCEUMS.

These associations are maintained at all of the posts in accordance with orders and regulations. They undoubtedly provoke study and discussion that can not fail to result in good.

POST EXCHANGES.

These establishments are in full operation and receive much attention. They supply quite a fund for purchasing materials for the men's table that are not furnished by the supply departments. During the past year no complaints have come to me nor have I personally found any cause to condemn the methods pursued in their management.

POST MESSES

These institutions are killing out the education of company commanders in the management and economical combination of the ration. They are also leaving companies without instructed and experienced cooks. Theoretically this is not to occur, but practically it is going on, and I do not well see how it is to be avoided. To have an experienced cook ruin the dinner for a whole garrison can not be thought of, and the assistant cook, whose whole duty consists in paring potatoes, is not apt to learn much about making a good soup or turning out a palatable roast of beef.

BARRACKS AND QUARTERS.

Generally speaking, the troops of this inspection are very well quartered. The exceptions are in Forts Adams, R. I., Warren, Mass., and Wadsworth, N. Y. At these stations the barracks are limited (except the Light Battery barrack at Adams) to casemates. Such accommodations are not suitable, and when the financial condition of the country will justify the expenditure some better provisions should be made. All these locations are such that they are likely to be held for military purposes permanently, and barracks of a permanent character would seem to be advisable.

In this connection I desire to invite attention to the fact that, in so far as the post records inform me, paragraph 1697 of the Army Regulations is being constantly violated in this inspection. Buildings are erected in the immediate vicinity of permanent works on sites that the post records do not show to have ever been approved by the Secretary of War, nor is there any evidence in the post records that the Chief of Engineers has been consulted in the matter. Considering the fact that in the late

new structures there is a very noticeable improvement in their character, and that they are somewhat permanent, I think the paragraph mentioned should be followed, for in some instances the works are being, or are liable to be, modified, and the new structures, if not located after consultation with all parties at interest, may have to be removed at considerable cost to the Government.

DISBURSEMENTS.

In my last annual report I recommended that the examination of the disbursing accounts of army officers should be reduced to but twice a year. I am still of that opinion.

Since my becoming an inspector there have been two instances in my field of work in which the accounts were fraudulent, but so prepared as to appear entirely correct from the papers in the office. * * * In each of these cases the official records were correct to a penny. It was only by an examination of the checks in the hands of the assistant treasurers at Boston and New York that any evidence of wrongdoing could be detected. In both instances the checks did not correspond with the retained stubs as to names, but both checks and stubs corresponded with the vouchers as to amounts. This state of things could not have occurred had the Treasury officials, in their statements of checks paid, given the name of the payee as it appeared on the check when presented and paid. The question of the advisability of modifying the present form of "bank statements" so as to contain the name of the payee on each check is one that would naturally be determined by the Treasury Department. The additional work would certainly be considerable, but how much I can not undertake to say. Such a course would certainly stop this method of fraud, but the additional safety might not justify the additional labor and expense necessary to secure it.

Signaling. The existing orders and regulations in regard to this instruction have been carried out. At a number of posts signaling is reported to have been put to practical uses.

Messing. The methods in use for feeding the troops during the year have, in the main, been satisfactory. The company mess would doubtless be decided the most practicable and feasible one if the question were left to a vote of the officers of the Army. It is what most of them are accustomed to. It is claimed by some that the proper education of company commanders in the management and economical arrangement of the ration is being negatived by the institution of the post mess; and also that their operation results in leaving companies without instructed and experienced cooks. Other armies also furnish instructive illustrations in this matter, both in garrison and the field, and they deserve further study. These objections may not be sufficient, however, to overcome the advantage of a minimum of waste and expense, which the careful administration of a general mess should, and probably does, insure.

At posts where the general mess is maintained the subalterns should in turn be detailed as assistants to the officer in charge of the mess, to the end that they may be instructed in the care and preparation of the service ration.

Gymnasiums. The facilities for gymnastic exercises at military posts appear to be very limited. There is no more important feature of a soldier's training than his physical development, and no better way to secure it than by systematic athletic exercise under the direction of competent instructors. Every permanent post should be provided with a suitable gymnasium building, supplied with inexpensive but modern apparatus. In the Department of the East much has been accomplished in the direction of the physical training of the soldier, but those in immediate charge have had to resort to makeshifts and expedients, and while the results are highly creditable to the energy and resourcefulness of the instructors and pupils, they would have been more satisfactory if the several posts had been provided with suitable buildings and apparatus. That the soldiers

themselves are much interested in this branch of training is evident by the fact that in many organizations they have bought apparatus and fitted up, at their own expense, small gymnasiums in their barracks.

Quite a number of the posts have a thorough system of sewerage, which is generally reported in good condition. At others there is only natural drainage, which, in some cases, is stated to be poor.

The water, with a few exceptions, is generally reported of good quality and the supply adequate, except at some posts, particularly during the dry season and for irrigating purposes. At a number of posts it is obtained from the waterworks of neighboring villages, towns, and cities under contract at a stated sum per annum or given quantity. At Fort Adams, R. I., the water is obtained from the Newport waterworks at the rate of 30 cents per thousand gallons, while at Fort Schuyler, N. Y., it is furnished under contract for 15 cents per thousand gallons.

These institutions have attracted far more attention or remark in ours than in the British service, and are reported in successful operation at almost all the posts from which inspection reports have been received. There seems to be no question as to their general usefulness being very freely acknowledged by all most directly concerned. Proper accommodations in the way of suitable buildings are still lacking at a number of posts.

SUPPLY DEPARTMENTS.

The quality of the supplies of all departments have been generally very satisfactory and sufficient in quantity. In the purchase, supply, and accountability of stores for soldiers the work and the requirements are far less exacting now than in the exigencies of war, which is the normal condition to be considered in army business methods; but the closest attention is being given to the matter by all concerned.

There are occasionally a few complaints in regard to some article of clothing. At one garrison complaint is made of the dark-blue flannel shirt supplied for issue. These cost \$2.21, and it is stated that the thread used in some of the issue shirts turns white after washing, while those obtained outside are sewed with silk thread, which does not fade. Some dissatisfaction still exists in regard to the boot and shoe issued to the troops. Of the former it is stated by the commanding officer of a camp that it is entirely unsatisfactory in the field, owing to its great weight and the large diameter of top of leg, admitting rain and snow.

The number of bed sheets, pillowcases, and mattress covers presented to inspectors during the year seems unnecessarily large. It is suggested that it would be in the interest of economy to issue the necessary number of these articles to all enlisted men at the prices established in the annual price list, their money value being charged on the clothing accounts of the men to whom issued. The clothing allowance should be sufficiently increased to cover the issue.

The allowance of leather gauntlets, berlin gloves, and campaign hats is too small—there is a general demand for an increase. If it is not deemed advisable to increase the allowance, post quartermasters should be permitted to estimate for and to keep on hand a larger number of these articles than indicated by the allowance table, in order that the men may buy them when needed.

The transportation is generally reported in very good condition. At a few posts there is a lack of proper shelter for the wagons, which in

some cases are in need of painting, and at a few others the number of public animals is said to be insufficient.

The buildings are reported in a satisfactory condition, with exceptions here and there as to their sanitary condition. Officers' quarters at several of the service schools are reported insufficient for the needs of the garrisons, even when the post has been reconstructed comparatively recently, as at Fort Riley, Kans. The work of building and repairing has gone steadily on during the year, and has been thorough and complete where the necessary funds for the purpose were available. The reduced ventilation at Fort Sheridan has been questioned, but criticism generally is greatly diminished as to the workmanlike construction at army posts. Some barracks, as at Fort Schuyler, N. Y., are reported to be old and not well adapted to the purpose; and at some posts a portion of them are reported to be overcrowded or inadequate, as at Fort Niobrara, Nebr., Benicia Barracks and the Presidio of San Francisco, Cal., Forts Assiniboine and Keogh, Mont., Fort Yates, N. Dak., and Forts Canby and Spokane, Wash. The changes in progress, both as to troops and barracks, promise constant improvement, and at some points the improvement has been marked and has more than once excited remark. The new barracks which have been constructed recently generally give entire satisfaction; but, as an indication of some of the ordinary requirements for comfort, the inspector, in speaking of two new structures at Fort Sheridan and at Fort Logan, Colo., states that, while they are commodious and complete, they have the following drawbacks, viz: The ventilation is so inadequate as to be injurious to health in one case, and in the other there is "(1) no upper porch on which the men can air their bedding; (2) the halls are immensely wide, taking that much space from the squad rooms; (3) the lockers put in the squad rooms are entirely too small."

At Fort Riley, Kans., the inspector reports three old stables, now occupied by cavalry troops, as dangerous, and to prevent serious loss to the Government he recommends that they be torn down and rebuilt.

The hospitals are usually reported in good condition and of sufficient capacity. Some of them are said to be models of their kind, while a few are old and unserviceable, and quite a number of them are in need of minor repairs. There has been a decided improvement in their convenient construction in recent years under the supervision of the medical officers.

Tentage. There is some complaint on the part of company commanders that the present allowance of tentage is not sufficient under all circumstances, and it is suggested that the character and exigency of the service should enter as a factor into the determination of the tentage allowance. In a permanent or semipermanent camp, such as target camps, etc, more tentage is required and allowable than on a march, where transportation is limited and considerable expensive hauling is necessary. In marching through settled communities, tents are required for purposes for which they are not needed when marching over the prairie, and there are many occasions in times of peace and mere instruction that a more comfortable allowance is permissible than may be possible in the rough contingencies of war to which all good soldiers readily conform. Coffins are not expected after a battle, where mere shelter tents may seem comparatively a luxury.

A wall tent should be habitually allowed for each first sergeant, which would serve also as a company office and storage room for extra ammunition. A conical wall tent might be added to a company's allow-

ance for the protection of the company rations, and one be issued to each troop of cavalry for the proper protection of forage, extra equipments, etc. Perhaps there is no greater need in the training of an army than that all should assemble habitually under war requirements, but this does not forbid ordinary comforts either in garrison or camp at other times.

Subsistence Department. The purchase, care, and issue of subsistence supplies appear to have been conducted in accordance with existing regulations as far as practicable under the established system, and every effort made to secure the very best under the most favorable terms. No stores in the Army are more perishable, but the small percentage condemned indicates the watchfulness in prompt issue and adequate supply. Perhaps no other bureau gives more successful attention to the deterioration and elimination of stores, as indicated for the past eight years by the percentages shown in the following table. Perhaps similar fluctuations might be indicated in the other bureaus, according to the recognized emergencies of the service and the care shown, if the same data were accessible.

Statement indicating the amount of money disbursed for subsistence of the Army for the several years, the value of the stores condemned, and the percentage of those condemned to the amount disbursed.

Year.	Disbursed.	Condemned.	Percentage.
1888	\$2, 526, 780. 69	\$10, 596. 00	0. 0042
1889	2, 485, 128. 32	8, 309. 95	. 0033
1890	2, 306, 914. 77	19, 040. 51	. 0083
1891	2, 559, 806. 01	18, 725. 67	. 0073
1892	2, 311, 254. 78	12, 537. 25	. 0054
1893	2, 506, 226. 81	10, 326. 08	. 0041
1894	2, 469, 630. 66	9, 055. 16	. 0037
1895	2, 303, 096. 22	5, 246. 07	. 0023

Perhaps there were never better opportunities of testing the careful and skillful and economical purchase and use of public stores than now if full advantage could be taken of the lower market rates, and in securing a better quality of supplies in some instances. A few complaints have been made of the beef and bacon and the restrictions upon the sale of stores. An emergency ration is now receiving the careful attention of the Subsistence Department.

INSPECTION OF UNSERVICEABLE PROPERTY.

As there appears to be a saving of some thousands of dollars effected by this branch of inspections as compared with former years under the careful scrutiny of the Assistant Secretary of War, some of the details may now be presented so as to permit future comparisons. Possibly if the supply departments can compare the loss to the Government in a former decade or lustrum with the present the change will be clearly indicated. The inventory and inspection reports of public property offered for condemnation during the year ending June 30, 1895, number 2,212, which is 180 less than in 1894 and 230 less than 1893. As these inventories are in triplicate, the saving of over 500 papers is in line with desirable military methods.

Of the total number (2,212) of inspections of unserviceable property received during the year 1,871, or nearly 85 per cent, were made by officers connected with this department.

Three hundred and forty-one inspections, made by special inspectors, were confined mostly to subsistence stores of a perishable character under Army Regulations 982.

In 1894 the percentage of inspections made by officers of this department to the whole number made was 84, while in 1893 it was 74. These inspections of property for condemnation aggregate in the several supply departments so great a number that it becomes a monotonous burden to the inspecting officer for which some relief or assistance has been sought, though doubtless the experience gained from performing it as a regular business has been beneficial in both the uniformity and economy obtained.

A summary of the reports for the fiscal year shows a substantial increase in the number of articles on which the cost price is given. This year 2,042 reports, or about 92 per cent of the entire number, have the value stated of a majority of the articles offered for condemnation. This is an increase of 9 per cent over the year 1894 and 22 per cent over 1893, and presents data much needed for the guidance of the inspecting officer. The obstructions interposed while establishing the present carefulness and system in these inspections have been pretty well overcome, and all the results appear beneficial. If a reasonable approximation to the total annual value of the property condemned, together with the date of original receipt into service of the articles offered and the other data asked in the inventory could be obtained, it might tend to locating and checking any apparent extravagance and indicating more clearly where due care, zeal, and economy exists and the hardest work is being done in the service. But systematic care in these matters may not have been equally habitual everywhere at times, and whether it can be thoroughly established can hardly be foretold. The increase in the number of reports on which all the information called for is inserted in the inventory is very gratifying, and the use of the simple and convenient word "unknown" is becoming infrequent and almost an indication of carelessness.

The total number of articles offered for inspection with a view to condemnation during the past fiscal year, including units of weight and measure, was 2,152,003, an increase of 1,224 over the year 1894. A branch of Government business thus numbered by the million may be comparatively insignificant and still merit due care. Of the total number inspected, 1,728,347 articles, with a valuation of \$578,827.09, and 319,105 articles, on which the value or cost price was not stated, were condemned, and 52,316 articles, valued at \$88,776.58, and 52,235, with no prices given, were retained in service. The average cost of an article condemned was .3349 cents. Taking this average as a basis, and extending it to the articles condemned on which the value or cost price was not reported, gives an approximate total value of the articles condemned for the year of \$685,695.35, an increase of \$23,220.60 over the amount reported by the same method for the year 1894. The figures from year to year, confined wholly to the same class of property in the manner adopted by the Subsistence Department, might be still more suggestive, and the variation in each bureau as compared with the average for the whole Army would then be indicated, as well as the difference between the care exercised by individual officers and organizations. The average cost of an article condemned in 1894 was 33½ cents, and in 1893, 36 cents. Possibly a considerable number of the less valuable articles could be added to the regulated expendable list without a loss greater than the clerical work saved.

The average price of each article retained in service was nearly \$1.70. The approximate value of the property offered for condemnation and

retained in service for the year 1895 was \$177,576.08, and the total valuation of all the articles presented for inspection was \$863,271.43, as against \$755,291.69 for the prior year. This increase was principally in engineer property.

The following comparative statements exhibit the branch of the service to which inventoried animals and articles belonged, and the regiment in which the highest and lowest number of public animals were offered for inspection during the past three years:

	1893.				1894.				1895.			
	Total inspected.		Inspected and retained in service.		Total inspected.		Inspected and retained in service.		Total inspected.		Inspected and retained in service.	
	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.
Cavalry	869	\$118,060.19	145	\$20,064.28	588	\$78,680.10	65	\$8,613.26	642	\$83,674.57	50	\$6,174.30
Artillery	68	11,766.49	5	950.00	82	11,915.66	5	925.62	51	8,949.00		
Posts	381	53,327.67	81	11,368.90	285	41,788.32	27	3,947.05	267	38,334.20	16	2,310.58
Staff departments.....	4	556.20			41	6,343.58			44	6,334.80		
Arsenals and armories.....									5	990.50		
Miscellaneous ..	17	2,476.70			1	236.00			1	144.50		
Total	1,339	186,187.25	231	32,383.18	907	138,963.66	97	13,485.93	1,010	138,427.57	66	8,484.88
Average per animal		139.05				139.37				137.06		

Year.	Cavalry.				Artillery.			
	Regiment.	Highest number offered.	Regiment.	Lowest number offered.	Regiment.	Highest number offered.	Regiment.	Lowest number offered.
1895.....	Sixth	104	Fifth	31	First	15	Second * ..	7
1894.....	Fourth ...	77	Ninth	40	Fourth ...	34	Second † ..	10
1893.....	Ninth	122	Tenth	49	Fifth	21	Fourth ...	4

* Also Third Regiment.

† Also Fifth Regiment.

Statement showing approximately the relation between condemned property and personnel and appropriations.

Department, etc.	Condemnation.		Appropriations.		Per-centage of con-demnation to ap-propriations.
	Total amount.	Average per man.	Total amount.	Average per man.	
1895.					
Quartermaster's.....	\$335,927.92	\$13.28	\$3,700 000.00	\$146.22	0.0908
Subsistence	7,094.10	.28	1,650,000.00	65.20	.0043
Ordnance.	145,841.56	5.76	1,015,600.00	40.13	.1436
Medical	27,982.09	1.11	160,500.00	6.34	.1743
Engineer.....	242,560.41		21,455,330.44		.0113
1894.					
National Home for Disabled Volunteer Soldiers†	194,234.95	13.31	1,771,701.30	121.34	.1096
Soldiers' Home, D. C	297.75	.41	† 107,772.90	146.83	.0028

* Disbursements shown by inspections of money accounts.
† Exclusive of the Pacific Branch.

In preparing this table the following appropriations were considered, viz:

Quartermaster's Department:

Regular supplies.....	\$2,400,000
Clothing, camp and garrison equipage.....	1,200,000
Horses for cavalry and artillery.....	100,000

Subsistence Department—Subsistence of the Army.

Ordnance Department:

Ordnance service	100,000
Ammunition	180,000
Ordnance stores—	
Manufacture.....	115,000
Equipment	190,000
Repairs.....	5,000
Preservation.....	5,000
Ammunition for morning and evening guns.....	20,600
Manufacture of arms.....	400,000
Medical Department—medical and hospital department.....	\$160,500

National Home for Disabled Volunteer Soldiers: Clothing, subsistence, household, hospital, and farm.

Average number of men in the Army in 1895:

Enlisted	24,552
Hospital Corps.....	753

Total 25,305

Average present, National Home for Disabled Volunteer Soldiers, 1894 (exclusive of the Pacific Branch).....	14,601
Average present, Soldiers' Home, District of Columbia, 1894.....	734

The value of the subsistence stores condemned for the year was \$3,812.70. In 1894 it was \$7,179.66. The decrease in 1895 is probably accounted for, in a measure, by the promulgation of General Orders, No. 18, of 1895, as stated before. Since General Orders, No. 8, of 1892, which required that one copy of each set of inventory and inspection reports shall be forwarded to this office, there has been a decrease of 5 per cent in the net loss on this class of stores.

Potatoes have been offered for inspection freely this past year, and it is noted that in many cases the time that elapses from their original receipt into service and the date of condemnation is quite short. Occasionally they are condemned within a few days after their receipt at the post, and many reports show they have been on hand less than three months. This, it is observed, is more general in New Mexico and Arizona, and may be due to climatic influences. It is understood that the question of cold storage has been under consideration in regard to other perishable stores.

ENGINEER PROPERTY.

Under the inspection of unserviceable property pertaining to rivers and harbors, for which officers of the Engineer Corps are responsible during the year, 127 reports of inspections were received, 124 of which were made by officers of the Inspector-General's Department.

The total number of articles inspected (including units of weight and measure) was 350,393. Of this number 275,563, with a value of \$191,496.27, and 74,006, with value not given, were condemned, and 421, valued at \$6,209.80, and 403, with value omitted, retained in service. The average price of an article, taking those with the value given as a basis, is 0.7164 cent, and assuming this to be a fair average for those

with the prices not stated, the approximate total value of the engineer property offered for condemnation would be \$251,032.67 for the year.

I venture to renew the suggestion of previous years
 Remount depots. that steps be taken to provide better horses for the mounted service, and invite your attention to my report of last year on the subject. There has been evident improvement; and the extremes are hardly so great in the service as formerly, either in size, color, quality, age, or training. In this connection it may be proper to state that during the year 944 horses have been condemned and sold, or about 13 per cent of the horses in the mounted service. There has been no active field service within the period, and these casualties are for the most part the result of ordinary garrison work. Even if the age, quality, and requirements at the time of purchase are left out of consideration, it may be possible that the percentage of loss of such horses as we have in the service could be materially decreased if the subjects of systematic exercise, feeding, and grooming received more attention on the part of mounted officers. In developing and caring for horses in the military service, much could be learned from the practice and experience of the running and trotting horse owners of this country, and the methods of our best troops and mounted regiments could be adopted more universally.

Many of the cases of laminitis, navicular disease, and "stove up," so called, and the other more common causes for condemnation, might never appear if the horses were fed according to the work required of them, and cared for in a thorough manner immediately after work, and not according to the time of day.

It seems that the best results in the instruction and
 Instruction of recruits. training of the recruit is often obtained by organizing at each post recruit detachments to which each recruit is attached upon his arrival at the post. An officer possessing special qualifications for this character of work being assigned to command the detachment, and the necessary noncommissioned officers, specially selected, detailed as his assistants. Each recruit should remain with the detachment until he is reported "ready for guard" by its detachment commander. But in this, as in all things, it is not desirable that the connection between the soldier and his company and its commander should ever be severed.

SOME RECENT ARMY CHANGES.

The change in the geographical assignment of officers of this department is in the same year with the retirement of the present commanding general, when an epoch in the history of the Army draws to a close which is replete with beneficial laws, regulations, and innovations; and perhaps no previous administration has seen such thorough remodeling during an equal period of peace. The improved condition of the Army has been effected gradually, but constantly, and the changes are far-reaching and radical, and have affected every phase of military administration, whether staff or line, enlisted men or officers, barrack or camp life, instruction or food, pay or clothing, reward or punishment; and the policy of the War Department has been faithfully observed and conscientiously carried out, and the reforms inaugurated seem to have received proper appreciation everywhere.

In 1888 there were 120 military posts; now there are 83, including West Point and Willets Point and five subposts with but small garrisons. This diminution of 30.8 per cent illustrates the War Depart-

ment policy of increasing the efficient strength of the Army by concentrating the troops where most needed. In addition, there were abolished the ordnance service depots, the recruiting depots, and, very recently, the military prison at Fort Leavenworth, Kans. Important changes were also made in the headquarters of the various military geographical commands. Divisions were discontinued and the headquarters and boundaries of several departments were changed.

Serious attention was given to the betterment of the enlisted force of the Army, and the salutary laws and orders promulgated in its behalf have elevated the standard of the personnel, intellectually and morally, lessened desertions, and increased contentment and efficiency. More rigid requirements governing enlistments and reenlistments were prescribed, and recruits required to be able to speak, read, and write English. With the increased demands the poorer element was gradually eliminated from the service and a better class of men found their way into the Army. Special regimental recruiting was instituted with very satisfactory results, and enabled the Department to change the expensive system of recruiting formerly in vogue. The three recruiting depots were discontinued and garrisoned by legitimately organized troops, and the preliminary instruction formerly given the recruits at these depots is now given them at their permanent company, and they are at once furnished with certain necessities conducive to personal comfort. For the benefit of those dissatisfied with Army life, provisions were made permitting the purchase of their discharge, and even granting it by way of favor; and lately the term of enlistment was reduced from five to three years. Provisions were also made for furloughs after serving an enlistment, and for redress in the matter of unsatisfactory character on discharges. The ration was relieved from the purchase of tableware and kitchen utensils, the bread ration increased, 1 pound of vegetables added to the daily ration, the company cooks granted compensation, thus securing the best available for this important duty, and greater facilities were afforded enlisted men in purchasing subsistence stores, even on credit.

The establishment of post exchanges and, in connection therewith, of amusement halls and gymnasia, the abolishment of post traders, the prohibition of the sale of ardent spirits and wines, the abolishment of Sunday inspections and tattoo roll call, and the introduction of riding halls, indicate the character of current changes. Both officers and men now reap the fruit of these wise measures. Great advancement was also made in the intellectual development of the soldier. Post schools and the instruction of enlisted men were made a military duty. Line sergeants were made more secure in their positions, and warrants for the regimental noncommissioned staff are issued by the Secretary of War. War service was made to count double in entitling enlisted men to retirement.

Improvements were also made in the administration of military justice, and embrace such as limitation of trials for desertion in time of peace, establishing summary courts, equalizing and limiting punishments for military offenses, furnishing counsel in trials by general courts-martial, reducing sentences for good behavior, and providing beds and bedding for prisoners.

Opportunities for intellectual improvement were increased, a school for cavalry and light artillery added to those already existing, an army medical school established at Washington, post lyceums inaugurated, and the benefits of the military information division and of the War Department library extended to all officers. A manual of guard

duty and new drill regulations for the cavalry, light artillery, and infantry were adopted. Practice marches, encampments, maneuvers, and other field operations simulating conditions of actual warfare were prescribed for the summer for all available infantry, cavalry, and light artillery of the Army when not prevented by active service, and a scheme of competition was adopted in order to encourage excellence in gunnery and in the preliminary instruction of individuals and batteries, and department inspectors of artillery were created with a view to increase the efficiency of that branch of the service. That there might be the greatest possible number of men available for both practical and theoretical instruction, details for extra and special duty were limited and regulated in general orders.

Material improvements were effected in the fit and quality of clothing, and quality and comfort of beds and bedding; and new arms and equipments were adopted to meet modern requirements, among which smokeless powder and a new magazine rifle with a caliber of .30 are most noteworthy.

In the inspection department the progressive spirit of the personnel has kept abreast of the salutary changes going on in the Army, and the establishment of independent inspection districts, closer scrutiny in the matter of property presented for condemnation, and of finances and business methods, resulting in economy and uniformity; more thorough inspections of all that pertains to military affairs, and the adoption of a system of reporting defects and irregularities, followed by prompt remedial action, may deserve mention. Whatever changes are foreshadowed in the other departments for the future it is hoped will be responded to with equal readiness and zeal.

Respectfully submitted.

J. C. BRECKINRIDGE,
Inspector-General.

The LIEUTENANT-GENERAL COMMANDING THE ARMY.

REPORT OF MAJ. GEN. NELSON A. MILES.

HEADQUARTERS DEPARTMENT OF THE EAST,
Governors Island, New York Harbor, August 31, 1895.

SIR: I have the honor to submit the following annual report for the information of the Lieutenant-General Commanding the Army:

The last annual report from this department was submitted by Maj. Gen. Oliver O. Howard, who retained command of the department until his retirement, the 8th of November last. Command of the department was assumed by me, under the orders of the President, on the 20th of the same month.

There are now embraced in this command 25 garrisoned posts and 39 posts not garrisoned, the number in the last annual report having been 26 of the former and 38 of the latter. The change is accounted for as follows: The garrison of Fort Ontario, N. Y., has been withdrawn to Madison Barracks, and the post is now in charge of an ordnance sergeant. The garrison of Fort Wood, New York Harbor, has been withdrawn to Fort Thomas, Ky., and the post is now in charge of the commanding officer of Fort Columbus. The garrison of Newport Barracks, Ky., has been withdrawn to Fort Thomas, and the post turned over, on January 1, 1895, to the city of Newport, Ky., "for a public park forever," under the act approved July 31, 1894. The garrison of Mount Vernon Barracks, Ala., has been withdrawn to Fort McPherson, Ga., and under the act approved March 1, 1895, Mount Vernon Barracks was transferred to the State of Alabama in April last, "to be held and used by the said State for public purposes." The posts of Davids Island, New York Harbor, and Columbus Barracks, Ohio, have been added to this department, under the new arrangement for recruiting service, and garrisoned—the former by artillery and the latter by infantry—and the new cavalry post of Fort Ethan Allen, Vt., has been occupied by a garrison of the Third Cavalry.

The posts not garrisoned are each in charge of an ordnance sergeant, or a noncommissioned officer acting as such, except Forts Lafayette, New York Harbor; Marion, Fla.; Wood, New York Harbor, and Taylor, Fla., which are in charge of the commanding officers of Fort Hamilton, St. Francis Barracks, Fort Columbus, and commanding officer Key West Barracks, respectively. Fort Carroll, Md., is in charge of the Engineer's, and Fort Livingston, La., in charge of the Quartermaster's Department. The reservation at Fort Macomb, La., has been leased by the War Department to certain clubs.

The troops embraced in the command are as follows:

Headquarters and 6 troops (2 skeletonized) of the Sixth Cavalry and 4 troops of the Third Cavalry, the First Artillery (except Light Battery E), the Second Artillery (except the two Light Batteries A and F), the Third Artillery (except Light Battery F), the Fourth Artillery (except Light Battery F), and Battery G of the Fifth Artillery; the Fifth, Sixth, Ninth, Thirteenth, and Twenty-first regiments of infantry, and headquarters and 7 companies (2 skeletonized) of the Seventeenth Infantry, making a force, including medical officers and other staff officers, of 515 commissioned officers and 6,520 enlisted men.

The following troops have joined the department since last annual report: Four troops of the Third Cavalry, headquarters and 6 troops of the Sixth Cavalry (2 skeletonized), 2 companies of the Fifth Infantry, the entire Thirteenth Infantry, and headquarters and 7 companies (2 skeletonized) of the Seventeenth Infantry.

The following troops have left the department—one troop of each of the following cavalry regiments: First, Seventh, Eighth, and Ninth from Fort Myer, and one company (Indian) of the Twelfth Infantry from Mount Vernon Barracks.

Particulars in regard to present garrisons of posts will be found in a roster appended marked C. A record of the principal events during the last twelve months is also appended, marked D.

INDIANS.

In September last there were at Mount Vernon Barracks, Ala., a company of Indian soldiers, 43 men; 17 men and 126 women; 18 boys and 2 girls over 12 years of age; 52 boys and 44 girls under 12 years of age—Apache Indians, prisoners of war; and Es-kim-in-sin's band of 8 men, 14 women, 1 boy and 1 girl over 12, and 8 boys and 13 girls under 12—also Apache Indian prisoners of war. All of these except Es-kim-in-sin's band, under instructions of the Secretary of War of September 14, 1894, were sent to Fort Sill, Okla., on October 2. Under instructions of September 17, 1894, Es-kim-in-sin's band was sent to San Carlos, Ariz., November 23. One Indian, Lah-tsi-nasty, was received from the civil authorities November 22 and sent to Fort Sam Houston, Tex., the next day. There are now no Indian prisoners of war remaining in the hands of troops of this department.

While the property of these Indians was en route to Fort Sill and in the hands of the railroads, one carload was totally destroyed and three carloads badly damaged by fire in a railroad freight shed in New Orleans October 28, 1894. I think this loss should be made good to the Indians whose property was destroyed or damaged. Papers in the case have been forwarded for consideration and action of the War Department.

TROOPS.

The instruction and efficiency of all the cavalry in the department is excellent. The instruction of the artillery is much embarrassed by want of modern artillery and artillery material. In the absence of these, the officers have made very creditable efforts to keep their own knowledge and the instruction of their commands abreast of the times. The range finder devised by Lieutenant Lewis, Second Artillery, and the relocater devised by Lieutenant Rafferty, First Artillery, give promise of great utility in artillery firing.

I strongly recommend that all artillery posts be provided with proper "subcalibers" for a sufficient number of the pieces and a good allowance of ammunition for using them in drill and practice. Something of this kind, in view of the expense of the ammunition for the piece itself, would greatly facilitate instruction in practical work and add to its interest and value. Many "subcalibers" are now in use abroad, and some have been devised by our own officers.

Another question is worthy of careful consideration—whether, in training gunners for service to keep our artillery up to the modern standard, it has not become necessary to have a special class of warrant officers or noncommissioned officers, enlisted for ten or more years, to be trained specially at the artillery schools for all the practical work

of the artillery in hitting and destroying an object aimed at, whether by seacoast or siege artillery.

The efficiency and instruction of the infantry is in general excellent.

Instruction in calisthenics, gymnastics, and athletics in general among the troops of all arms has been carried on during the past year and will be still further provided for in the coming year as having the greatest usefulness in fitting officers and men for active service.

ARMS.

All of the infantry in the department and a portion of the artillery have been armed with the new .30 caliber magazine rifle during the past year, which appears to give good satisfaction, except in the sighting of the piece and some other minor points, which will no doubt be corrected.

DISCIPLINE.

The discipline of the troops is excellent. The report of the Judge-Advocate shows a less number of trials by general courts martial than last year, though there has been a very considerable increase in the strength of the command. The number of trials by garrison and summary courts is larger, but these trials are generally for small offenses.

POSTS.

At Fort Adams, R. I., the casemate barracks and quarters are very objectionable on account of dampness and lack of light, and the buildings generally are badly in need of repair.

At Fort Barrancas kitchens are needed for the noncommissioned staff quarters and a porch for the barracks; also a building for chapel, school, and reading rooms.

At Columbus Barracks the quartermaster's department is in the midst of the construction of additional buildings to fit this post for a regiment of infantry.

At Fort Columbus a building for gymnasium is very much needed.

At Davids Island, New York Harbor, the improvements to barracks now in progress give promise of early completion; they are excellent and badly needed, the troops having suffered severely during the past winter for lack of shelter and heat. It is expected that by the coming winter the garrison of this post will be well provided for. A new guardhouse is much needed here and storerooms for ordnance material.

At Fort Hamilton, New York Harbor, additional barracks for men and quarters for officers are much needed; also a substantial fence for the reservation and repairs to roads and walks.

At Jackson Barracks a better and larger site is needed for the barracks and quarters for the garrison, which should be increased and placed in more immediate connection with the defensive works.

At Madison Barracks, N. Y., the quarters for officers are insufficient, and a new guardhouse is very much needed. The new rifle range for this post purchased this year will be a great saving of expense of transportation and will prove a most valuable and useful addition to the post.

At Fort Monroe, Va., the new sewerage system, so long needed, is now being put down, and it is believed that its satisfactory completion will relieve the post of the diseases heretofore recurrent from bad drainage.

At Fort Myer, Va., a rifle range is very much needed, and I recommend that an effort be made to secure ground within a reasonable distance of this post, to be used also by the troops of Washington Barracks, D. C.

At Plattsburg Barracks, N. Y., a new rifle range should be prepared and equipped suitably for modern firearms; the site on the reservation is ample, and the estimated cost, including draining and grading, is \$11,275.

At Fort Preble, Me., the land within the reservation lines owned by civilians is much needed for the new mortar batteries to be built at the post, in order to avoid selecting a site that will make it necessary to incur the expense of removing and reconstructing many of the present buildings. The present reservation is too small. I recommend the purchase of this land.

At St. Francis Barracks, Fla., more land is needed for the use of the post and an improvement in the buildings if the occupation of the post is to be continued.

At Fort Schuyler, New York Harbor, the permanent road leading to West Chester, the only certain means of communication in winter, needs repair, and the northern face of the causeway requires riprapping to protect it in winter. The sea wall around the fort is also in need of repair. A new guardhouse is much needed, as well as improvements to the barracks.

At Fort Trumbull, the approaches to the post are badly in need of repairs. The two sets of casemate quarters should be replaced by more suitable buildings.

At Fort Warren, Mass., the troops still occupy the damp and unwholesome casemates; new barracks are needed.

At Washington Barracks, D. C., two sets of officers' quarters are needed for medical officers.

All the more northern posts, where the winter season is not adapted to outdoor exercises, should be equipped with gymnasiums for training officers and men. At some of the posts a gymnasium has been improvised, but the buildings are not well suited for the purpose. The best, at Columbus Barracks, has demonstrated the advantage of such a building.

CONSOLIDATED POST MESS.

This method of supplying their daily meals to the troops is not entirely satisfactory; the company mess is believed in general to be more agreeable to the men and a better arrangement, as under it the company is very much better prepared to handle its ration and to prepare its own food when, by the demands of the service, it is separated from the conveniences of the elaborate cooking outfit of the post mess hall with its experts trained to handle the modern complicated appliances for cooking on a large scale.

POST LIBRARIES.

Some provision for post libraries is very much needed. Books in use need occasional rebinding, and at some of the posts no libraries exist. But little additions can be afforded to those now existing unless some provision is made therefor. These important adjuncts should be provided for at all posts.

POST LYCEUMS.

The lyceum season for the year has been fairly successful. An abstract of the work accomplished is appended, marked F. There is a tendency among some officers to go outside of professional subjects in essays, which is deprecated.

REPORT OF DEPARTMENT COMMANDER'S INSPECTION OF POSTS.

A copy of my report on the inspection of the southern posts I have visited is attached to this report, marked A.

COAST DEFENSES.

I desire to call special attention to the fact that the defenses of the approaches to the cities of Mobile, Savannah, Charleston, Washington, and Philadelphia are without garrisons, those of the city of New Orleans being in nearly the same condition, and that Sandy Hook, in New York Harbor, though provided with works and guns, is still without a garrison or barracks and quarters to accommodate one.

STAFF DEPARTMENTS.

The work of the officers of the staff departments at the headquarters of this department has been entirely satisfactory during the past year—efficient and economical. By reason of lack of appropriation a portion of this command was not paid for the month of June last; this deficiency should be met at an early date. The work of these departments will be found in detail in the several reports.

Very respectfully, your obedient servant,

NELSON A. MILES,
Major-General, Commanding.

The ADJUTANT-GENERAL UNITED STATES ARMY,
Washington, D. C.

REPORT OF MAJ. GEN. WESLEY MERRITT.

HEADQUARTERS DEPARTMENT OF THE MISSOURI,
Chicago, Ill., August 30, 1895.

SIR: I have the honor to submit the following report of affairs in this department covering the period since the date of the last annual report of my predecessor:

I assumed command of this department on May 18 last; hence my personal participation in the transactions covered by the record of events is limited and my report will necessarily be brief.

The Apache prisoners of war were transferred from Mount Vernon Barracks, Ala., to Fort Sill, in this department, where they arrived October 4, 1894. The children of the prisoners who have been sent to the Indian school at Anadarko, Okla., have rejoined their parents during the month of June.

Capt. H. L. Scott, Seventh Cavalry, was placed in charge of these Indians, and has labored industriously and enthusiastically to improve their condition and settle them happily in their new homes. Since their arrival at Fort Sill the Indians have been engaged in sawing pickets, hauling logs, sinking wells, building bridges and houses. They work very industriously and cheerfully.

From the appropriation of 1894, made for the transfer, maintenance, and support of these Indians, farming implements, etc., have been purchased, and a contract has been let for supplying a number of cattle to them. On June 30 they numbered 18 men, 117 women, 68 boys, and 47 girls, making a total of 250 prisoners.

The transfer of the military prison at Fort Leavenworth to the Department of Justice has been accomplished according to law. This transfer will, in my opinion, render necessary at the designated prison posts in this department—Forts Sheridan and Riley—increased guard-house room. Already Fort Riley reports its inability to take charge of more prisoners than the number now there—about 20—and Fort Sheridan has been filled to about its capacity for the proper care of military convicts. I presume this state of affairs was anticipated when the change was determined on and that appropriations will be available for building proper prison accommodations for the men—deserters—whose certain punishment is one of the important safeguards of the Army.

Although I have not yet personally inspected the troops of the department, I feel justified in saying that generally throughout the command the discipline and instruction is such as the Government, in view of the care taken for the comfort and education of men and officers, is justified in expecting.

The detachment of cavalry and artillery under Captain Capron which took part in the annual encampment of the National Guard of Wisconsin has just returned to its station, Fort Sheridan.

It is gratifying to record the fact that the presence of these troops, in conjunction with that of the Third Infantry from Fort Snelling, is considered an important advantage to the National Guard. I can not, in justice to these troops, omit the publication in this report of the following most satisfactory communication from Governor Upham, of Wisconsin:

EXECUTIVE CHAMBER,
Madison, Wis., August 21, 1895.

SIR: The annual encampment of Wisconsin troops just brought to a close has proved the most profitable and successful in point of instruction and discipline of all yet held within the limits of the State. In large measure its success was due to the presence, the example, and cordial cooperation of the detachments of the Regular Army, and I beg to express to you, and through you to the officers and men of Light Battery E, First Artillery, and Troops B and K, Seventh Cavalry, my high appreciation of their conduct and services. In camp the relations between them and their comrades of the guard were of the most cordial and kindly nature. On the drill ground and in the maneuvers they were conspicuous not only for their high instruction and efficiency, but for their readiness to aid and teach; while on their long march through six counties of the State they won the hearty good will and admiration of our people by their soldierly appearance, bearing, and discipline.

A warm welcome awaits them whenever they may come again.

Very respectfully

W. H. UPHAM, *Governor.*

Gen. WESLEY MERRITT, U. S. A.,
Commanding Department of the Missouri.

It is pleasant to know that the discipline and instruction, as well as the high character of our officers and men as the Army is now organized, is appreciated by the National Guard and the civil authorities of the State.

Herewith are the reports of the heads of the different staff departments and offices, a statement of accomplished lyceum work, and a chronological record of events showing the movements and changes of troops in the department.

Very respectfully,

W. MERRITT,
Major-General, Commanding.

The ADJUTANT-GENERAL UNITED STATES ARMY,
Washington, D. C.

REPORT OF BRIG. GEN. JOHN R. BROOKE.

HEADQUARTERS DEPARTMENT OF DAKOTA,
St. Paul, Minn., August 23, 1895.

SIR: In obedience to the orders of the Lieutenant-General I have the honor to submit my annual report at this time.

Nothing of unusual military interest has transpired in this department since the railroad strikes and troubles of last year. The Indians have remained quiet on their reservations, and from all I can learn they are progressing in industry wherever they see any benefit arising from their labor.

The following changes of troops in the department have occurred:

Since the last annual report the Twentieth Infantry was ordered to take station at Fort Leavenworth, Kans., so the headquarters, band, and Companies A, B, D, E, F, G, and H of that regiment left Fort Assinniboine, Mont., October 10, 1894, and proceeded by rail to their new station. Company C, stationed at Fort Buford, N. Dak., joined the regiment en route the morning of October 11, 1894.

The following organizations were added to the garrison of Fort Assinniboine, Mont.: Troop I, Tenth Cavalry, arrived October 8, 1894, from Fort Myer, Va. Headquarters and band, Tenth Cavalry, left Fort Custer, Mont., November 18, 1894, and arrived at Fort Assinniboine the following day. Companies B and D, Twenty-second Infantry, arrived from Fort Keogh, Mont., on the 19th of January, and Company E, Twenty-second Infantry, arrived August 17, 1895, from Fort Pembina, N. Dak.

Forts Sully, S. Dak., and Pembina, N. Dak., and the ordnance depot at Fort Snelling, Minn., have been discontinued, and Fort Meade transferred to the Department of the Platte (Sully October 31, 1894; ordnance depot November 1, 1894; Pembina August 15, 1895; Meade July 27, 1895). Major Gageby and Companies B, C, and D, Twelfth Infantry, left Sully for Fort Niobrara, Nebr., October 20, 1894, leaving Lieutenant Markland and 22 enlisted men of the Twelfth Infantry to wind up the affairs of the post. Having accomplished this, the officer and detachment left November 20, 1894, for Fort Niobrara. The buildings, grounds, etc., pertaining to the Fort Snelling ordnance depot were, on November 6, 1894, turned over to the quartermaster's department, and on December 10 they were transferred to the post authorities of Fort Snelling as part of that post. August 15, 1895, Company E, Twenty-second Infantry, Captain Hooton commanding, left Fort Pembina, N. Dak., for Fort Assinniboine, Mont., its new station, arriving there August 17. Lieutenant Ely and 10 enlisted men remained at the post until the final disposition of property, etc.

The following troops and companies composed of Indians were disbanded on the dates set opposite each organization:

Company I, Third Infantry, stationed at Fort Snelling, Minn., October 27, 1894.

Company I, Twentieth Infantry, stationed at Fort Assinniboine, Mont., October 31, 1894.

Troop L, Third Cavalry, stationed at Fort Meade, S. Dak., March 13, 1895.

Troop L, First Cavalry, stationed at Fort Custer, Mont., March 23, 1895.

Troop L, Eighth Cavalry, Casey's scouts, stationed at Fort Keogh, Mont., June 11, 1895.

The barracks of Companies A and B, Twenty-second Infantry, at Fort Keogh, Mont., and the buildings numbered 9 to 19, inclusive, at Fort Pembina, N. Dak., were completely destroyed by fire on December 30, 1894, and May 27, 1895, respectively.

Captain Hale, Lieutenant McCoy, and 20 enlisted men, Company G, Third Infantry, left Fort Snelling, Minn., September 2, 1894, for Hinckley, Minn., to assist the State authorities in rendering aid to the people in that vicinity who had been made destitute and homeless by forest fires. The party returned to post September 4, 1894.

Companies A and D, Twenty-fifth Infantry, accompanied by a detachment of the hospital corps, Captain Sweet commanding, returned to Fort Custer, Mont., on September 3, 1894, from camp at Livingston, Mont., where they had been protecting railroad property since July of the same year. A practice march of 35 miles en route from Custer Station, Mont., was made. Distance traveled, 169 miles.

Troop D, Sixth Cavalry, under command of Captain Scott, left Fort Yellowstone, Wyo., on May 31, 1895, en route to Lower Geyser Basin, Yellowstone National Park, to go into camp there during the summer-tourist season, marching a distance of 38 miles.

The band and Troops D, E, F, and K, Eighth Cavalry (9 officers and 218 enlisted men), under command of Major Wells, Eighth Cavalry, left Fort Meade, S. Dak., on June 11, 1895, to attend the reunion of the Grand Army of the Republic at Spearfish, S. Dak., and returned to post June 17, 1895, having marched a total distance of 56 miles.

Headquarters, band, and Companies A, B, C, D, E, F, G, and H, Third Infantry, with 1 medical officer and 5 enlisted men of the hospital corps (20 officers and 365 enlisted men), Colonel Page commanding, left Fort Snelling, Minn., June 20, 1895, en route to Lake City, Minn., marching a distance of 68 miles and arriving there June 25, 1895, for encampment with the National Guard of the State of Minnesota. The command remained in camp until July 20, when it proceeded by rail to Camp Douglas, Wis., and participated in the encampment of the National Guard of the State of Wisconsin, which lasted till August 17, 1895, when the regiment returned by rail to its proper station, Fort Snelling, arriving there the same day.

Camp Merritt, Mont., a subpost of Fort Keogh, Mont., was garrisoned during the past year by the following troops: Company A, Twenty-second Infantry, Captain Webster commanding, with Lieutenant Godfrey and 49 enlisted men, left Fort Keogh, Mont., on August 27, 1894, arrived at the camp September 1 and relieved Company G, of the same regiment, which, under command of Captain Ballance, returned to its station, Fort Keogh. Distance marched by each company, about 90 miles. Company A, Twenty-second Infantry, was on November 1, 1894, relieved by Company D, Twenty-fifth Infantry. The latter company, consisting of 3 officers and 50 enlisted men, under command of Captain Sweet, left Fort Custer, Mont., on October 28, 1894, marching 60 miles. The former company returned to Fort Keogh November 4, 1894. Company C, Twenty-second Infantry, Captain Kell commanding, left Fort Keogh April 23, 1895, arrived at the camp on April 28, 1895, and relieved Company D, Twenty-fifth Infantry, which returned to its proper station, Fort Custer, May 2, 1895.

Practice marches were made by the troops in this department since the last annual report as follows:

From Fort Buford, N. Dak.—Companies C and E, Twenty-fifth Infantry, under command of Captain Robe, left post October 18 and returned October 24, 1894. Total distance marched, 66 miles.

From Fort Custer, Mont.—Troops E, Tenth Cavalry, and L, First Cavalry (Indians), Lieutenant Smith, Tenth Cavalry, commanding, left post October 15, 1894, marched to base of Big Horn Mountains, and returned October 24, covering a total distance of 132 miles.

From Fort Keogh, Mont.—The headquarters, band, and Companies B, C, D, F, and H, Twenty-second Infantry, Troop L, Eighth Cavalry, Casey's Scouts, and Troop A, Tenth Cavalry, with 1 medical officer and a detachment of the hospital corps, under command of Colonel Swaine, Twenty-second Infantry, left post October 1, 1894, marched to a point on southern boundary of reservation, and established a camp of instruction, returning to post October 6. Total distance marched, 35 miles.

From Fort Missoula, Mont.—Companies B and G, Twenty-fifth Infantry, with 4 officers and 95 enlisted men, under command of Captain Wilson, left post October 2 and returned October 11, 1894, having made a march of 52 miles. Companies F and H, Twenty-fifth Infantry, with 5 officers and 95 enlisted men, Captain Hodges commanding, left post October 12 and returned October 21, 1894, marching a distance of 34 miles.

From Fort Yates, N. Dak.—The infantry battalion, composed of companies A, F, and H, Twelfth Infantry, with 1 medical officer and a detachment of the hospital corps, under command of Lieutenant-Colonel Comba, Twelfth Infantry, left post September 11, 1894, on a practice march along the Cannon Ball River. The command was out twenty-six days and covered a distance of 228 miles, returning along the Grand River to post October 6.

I assumed command of this department on the 18th of May last. On the 15th of July I left my headquarters for the purpose of making an inspection of the posts and garrisons, and the following is a summary of my observations:

FORT BUFORD, N. DAK.

I found the garrison of this post in excellent condition as to drill and discipline. The buildings are in such a dilapidated condition that it would require a large sum to put them in repair. This, added to the fact that the post is no longer valuable as a military station, induced me to recommend its abandonment and the transfer of the garrison to other posts. I have not yet heard from this recommendation. Early action is desirable, as the small allotment for repairs at this post has not been expended up to this time, and should the post be continued it would be necessary to utilize this sum without delay.

FORT ASSINNIBOINE, MONT.

The inspection of this post showed the garrison to be well disciplined and well instructed. There is great need of quite a large expenditure at this post for the following purposes: The enlargement of the barracks, which are now densely crowded, having been originally built for smaller companies, and being at that time too small for the proper accommodation of the authorized strength of the companies. Each of these barracks should have added to it a two-story L, sufficiently large to accom-

moderate comfortably the increased strength of the companies and troops. There is much to be done at this post to make it fairly comfortable for the garrison, both officers and men. The question of water supply seems to have been solved. The importance of this post with reference to the international boundary is unquestioned, and it should be placed on the list of permanent posts. To make it comfortable, a reasonable extension of the water supply is necessary. The heating should be done from a central plant for the barracks and an individual plant should be placed in each set of officers' quarters. There is no reason why this garrison should not receive the same consideration as regards barracks and quarters as those situated in the populous regions of the country. I would recommend that a regiment of cavalry be stationed at this point as a garrison. A riding hall should be built now. The reason why cavalry will be most useful here is obvious.

FORT MISSOULA, MONT.

I found this post neat, clean, and tidy, the garrison well instructed and well disciplined. Certain conveniences should be placed in the officers' quarters, such as bathrooms, etc. The allotment should be increased to enable the post authorities to make certain repairs to some old buildings which will continue their serviceability for years to come.

FORT YELLOWSTONE, WYO.

The garrison of this post is at this season of the year scattered throughout the Yellowstone National Park for its protection, but few men being held in any one place. I found the troops in good condition, careful, and attentive to their duties. Their arrangement in small bodies, covering a very large extent of country, seemed to be wise and effective. New buildings should be erected without delay, and the old post should be torn down, the present garrison being separated because of the want of proper accommodations in one spot. A riding hall should be built at this post.

FORT CUSTER, MONT.

The garrison of this post is well instructed and in good discipline. The buildings are, except the officers' quarters, in such a condition of decay as to be dangerous to the occupants. Some storehouses are in good condition, but should this post be maintained, it should be rebuilt.

FORT KEOGH, MONT.

The garrison of this post is well instructed and under good discipline. While not so dilapidated as Fort Custer, it is still in such a condition that the barracks should be rebuilt and the officers' quarters extensively repaired if it be considered necessary to continue troops at this point.

FORT YATES, N. DAK.

The troops of this garrison are well instructed and disciplined. The buildings have been repaired as far as the means permitted, but they are also, except the barracks occupied by the squadron of cavalry (two troops), in such condition as to make it necessary to replace them and also to make very extensive repairs on the officers' quarters, if this post is to be continued.

FORT SNELLING, MINN.

The garrison of this post had but just returned from a two-months absence attending the camp of the National Guard of Minnesota at Lake City, and that of Wisconsin at Camp Douglas. It manifests instruction and discipline. The buildings are new, practically, and ample for the accommodation of the garrison, except in the matter of officers' quarters and storehouses. The storehouses are widely scattered and insufficient. New ones should be built at a point contiguous to the present post and the old structures pulled down. The heating at this post is by stoves in the men's barracks, and should be done by a central heating plant which could be placed here at a reasonable cost and a large saving in expense. The water system should be enlarged by constructing another large tank and raising the wall of the reservoir at the spring.

In the inspection of these posts I have given close attention to every detail of the service, and in every instance where I found it necessary, corrections were made so that in succeeding inspections it may be seen that the service has been benefited.

I would invite attention to the reports of the chiefs of the staff departments at these headquarters, which give in detail the matters pertaining to each. The officers stationed here as members of my staff have shown zeal and ability in their various departments, to the benefit of the service and the satisfaction of their commander.

Respectfully,

JOHN R. BROOKE,
Brigadier-General, Commanding Department.

The ADJUTANT-GENERAL UNITED STATES ARMY,
Washington, D. C.

REPORT OF BRIG. GEN. FRANK WHEATON.

HEADQUARTERS DEPARTMENT OF THE COLORADO,
Denver, Colo., August 25, 1895.

SIR: I have the honor to submit the annual report of the Department of the Colorado for the year 1894-95.

I assumed command of this department on May 20, 1895, in compliance with General Orders, No. 27, current series, Headquarters of the Army.

MILITARY POSTS.

Having only recently been assigned to the command of this department I have not yet been able to make the inspection of posts required by General Orders, No. 18, Adjutant-General's Office, current series.

After having visited all the posts in the department I will be able to submit a special report recommending an increase in some important garrisons and the abandonment of one or more posts now occupied.

Forts Bowie, Ariz., and Marcy, N. Mex., have been abandoned and San Carlos, Ariz., made a subpost to Fort Grant, thus practically reducing the number of regularly organized garrisons in this department since last annual report from 13 to 10.

INDIANS.

I am glad to be able to report a satisfactory condition of affairs among the Indians located in this department. No serious disturbances have occurred since the date of the last annual department report, and there

does not now seem to be any occasion to anticipate further trouble on or off the Indian reservations in Colorado, Utah, New Mexico, or Arizona. The recent adjustment by the Interior Department of questions pertaining to the permanent location of the Southern Utes on lands they may take up in severalty on their reservation in southern Colorado will undoubtedly remove causes for anxiety among settlers in that region.

APACHES.

August 13, 1894, it was reported that the renegade Apache Indian Kid, accompanied by Massa and three other renegade Chiricahuas, were seen in the vicinity of Ash Creek, midway between San Carlos and Fort Apache, Ariz., heading northwest. Scouting parties from Forts Bowie, Apache, and Grant were immediately put in motion, but after a thorough scout of the country, much of it extremely rough and rocky, and in many places impassable for horses and very difficult to travel through on foot, no indications could be found of the presence of Kid or other renegades.

August 17, 1894, Sanchez, a White Mountain Apache, and quite a noted character in the attack on Gen. E. A. Carr, Sixth Cavalry, on the Cibicu in August, 1881, was killed near Cedar Creek, 13 miles west of Fort Apache, by Indians during a *tizwin* orgy. The murderer was subsequently arrested and placed in the guardhouse at Fort Apache, and sent under guard to San Carlos and turned over to the acting Indian agent at that place September 6.

August 21, 1894, a squaw was stolen while gathering acorns at 8 o'clock in the morning about 8 miles east of Fort Apache. The Indians first reported that the renegade Kid had stolen the woman, but afterwards claimed the abductor was Massa. Lieut. W. C. Rivers, Third Cavalry, with a mounted detachment left in pursuit at 1 o'clock the same day, one hour after the outrage had been reported to the post commander, and finding the trail 9 miles from the post, followed it so rapidly that the renegade was compelled to abandon the squaw the same evening. The trail was followed for four days, when it was lost, owing to heavy rains.

September 20, 1894, Messrs. Howells and Fletcher, accompanied by Mr. Burchfield, manager of the Diamond A cattle ranch, and four cowboys, entered the camp of First Lieut. W. H. Bean, Second Cavalry, commanding the escort to United States Boundary Commission at White Water, Mex., on the western edge of the Playas Valley, and reported that Indians had stolen 16 horses from Howells's ranch near Hachita, N. Mex., on the morning of the 16th. These men had followed the trail into the mountains near Walnut Creek and found evidence of killing of beeves and the shoeing of horses with rawhide. Lieutenant Bean, with two Indian scouts and one soldier, accompanied the party, found the trail, and followed it into the Sierra Madre Mountains, Mexico. Here more evidence was found of the presence of Indians, and the band estimated at six or seven. The trail being about four days old and leading south into Mexico, it was abandoned.

December 4, 1894, the Apache chief Eskimizene and his band, numbering in all 46 souls (8 men, 14 women, and 24 children), were turned over to the Indian agent at San Carlos Agency, Ariz., and released as prisoners of war.

These Indians were arrested in 1891 on the San Carlos Agency on suspicion of being in sympathy with the renegade Apache Kid and furnishing him with food and asylum when on his raids from Mexico, and sent to Mount Vernon Barracks, Ala., where they were held as prisoners of war until returned on above date to San Carlos.

May 13, 1895, the commanding officer, Fort Grant, Ariz., reported reliable reports had been received from Wilcox, Ariz., that miners had been fired upon by a band of 12 Indians near Fort Bowie, an abandoned post. The troops at Fort Grant being under orders for transfer to Fort Riley and packed up ready for the move, the commanding officer at Fort Bayard, N. Mex., was directed to dispatch troops to the vicinity. Troop I, First Cavalry, under command of Capt. John Pitcher, proceeded to the scene of the alleged trouble, but failed to discover any evidence of Indians being off the reservation or of any depredations committed.

May 14, 1895, a little before sundown, about 12 miles south of the San Carlos Agency, an Apache Indian, probably from description the renegade Massa, shot and killed a Mojave squaw, wounded another squaw who was an eyewitness to the killing, and carried off a third, the daughter of the murdered woman, together with her child. The trail was taken at daylight next morning and followed in a southerly direction for 60 miles, where it was lost, owing to the large herds of horses and cattle into which it led.

May 14, 1895, Mr. A. D. Brewer, justice of the peace, reported from Morenci, Ariz., that 15 Indians were seen rounding up horses of settlers 7 miles south of Clifton, Ariz., at sundown on the 13th. Troops from Fort Apache were started in pursuit, and upon arriving at the scene discovered that Mr. George Johnson, a Mexican half-breed, on the afternoon of May 13, while hunting his horses, saw three Indians near them and claimed they were trying to catch them, but could give no good reason for this belief beyond the fact that the Indians were there, and not stopping to see their intentions, he immediately fled to Morenci, a few miles distant, and spread the report of hostile Indians. The following day, returning with a party of Mexicans, he found his horses unharmed. A few days previously it had been reported that cattle had been killed by the Indians on the Gila Bonita Creek, but it was subsequently found that Mexicans had done the killing. The troops could find no indications of the presence of Indians in the vicinity.

MOQUIS.

November 15, 1894, Capt. Constant Williams, Seventh Infantry, acting agent for the Navajo and Moqui Indians, reported that hostile Moqui Indians had appropriated and planted fields of friendly Moquis near Tuba City (Moen Copie) near the western border of the Moqui Reservation. The commanding officer, Fort Wingate, N. Mex., was directed to send two troops of cavalry with Hotchkiss gun to assist Captain Williams to settle the difficulty and discipline the unruly element of the tribe. This trouble originated from a faction of the Moquis of the Oraibi village, who are opposed to the progression of their tribe and the efforts of the Government to civilize them and educate their children.

The troops reached the Oraibi village on the afternoon of the 25th of November, when the Indians were congregated in front of their village, and 18 of the malcontents were arrested that afternoon without conflict and 1 other arrested the same evening.

The prisoners were taken to Fort Wingate and placed in confinement in the guardhouse at that post, and were subsequently, on January 1, 1895, sent under guard to Alcatraz Island, Cal., under instructions from the War Department.

UTES.

In the latter part of November, 1894, it was reported that San Juan County, Utah, had been invaded by from 300 to 500 Indians from the Southern Ute Reservation, with 3,000 to 5,000 horses and from 8,000 to

10,000 sheep and goats; that there were from 200 to 300 Navajo Indians in the county with whom a combination was being made to oppose the whites; that the rights of the settlers were being outraged and the situation was threatening with imminent danger of bloodshed and conflict.

Lieut. Col. H. W. Lawton, inspector-general, was directed to investigate the situation, and arrived at Monticello, Utah, on the 12th of December, on which date the agent, David F. Day, Governor Caleb West, of Utah, and Colonel Lawton met and held a conference with the Indians, numbering about 100 males of the Weeminuche tribe of Southern Utes, under Chief Ignacio.

The Indians were at first inclined to be obstinate and to refuse to obey the order of the Commissioner of Indian Affairs, which was read to them, to return to their reservation in Colorado, and it was believed that a show of force would be necessary to compel them to obey the order of the Commissioner. The following day, however, after cooler counsel, the Indians consented to return to their reservation, and on the 20th of December the return movement began.

Quoting from Colonel Lawton's report, dated January 8, 1895:

Ignacio, who is looked upon as the first or head chief of all the Southern Ute tribes, was last year taken to Washington to personally endeavor to have some settlement of the affairs of his people. In his conversations with those in authority he represented the advantages of the country which had been promised him as a reservation for a winter home for his people, and asked why it might not be so occupied by them. I am informed he was assured by several whom he believed had the authority to speak that there was no objection, and that he had as good a right on the reserved public land as anyone. This assurance became a fixed idea in his mind, and early this winter he, with a portion of his band of Weeminuches, without other authority, as I am informed, proceeded to the territory in question.

Ignacio, in bringing his people into this country, acted in perfect good faith, fully and conscientiously believing he had been authorized by the proper authorities in Washington to do so. There was no intention or thought on his part to create or meet trouble of any character. At the conference at Monticello he protested, first and last, that his authority to be in the country was of the highest character from Washington. He made no threat of violence or resistance, constantly declaring there could be no trouble, simply denying the authenticity of the order requiring him to return.

There was no evidence whatever of any hostile intention on the part of these Indians; on the contrary, there was every possible evidence that they intended to preserve the peace at all hazards.

It is my opinion that at no time was there the slightest danger of a collision either against or from the Indians, and that none was seriously apprehended by those who permanently resided in the community. I heard no reference made to any combination between the Navajoes and Utes, and believe the suggestion too ridiculous to deserve consideration.

However much the reports and statements of this matter may have been exaggerated, and for whatever purpose, and however little right the white man may have on this reserved land and however much the Indian, the fact remains that Southern Ute Indians were off the reservation without proper authority. It would, I think, be perfectly competent for the Interior Department to authorize these Indians to occupy a portion of this country for winter camps. Still, such authority had not been granted, and without it, duly authenticated by the agent, they should not have been there.

The reservation at present occupied by the Southern Utes is a strip 15 miles wide and 110 miles long, lying along the southern line of Colorado. I understand that during the present month (August) the Acting Secretary of the Interior has approved the agreement made with the Southern Utes whereby such as do not take up lands in severalty are to be settled on the western third of the reservation.

NAVAJOES.

In reply to an inquiry of the department commander last August, Lieut. E. H. Plummer, Tenth Infantry, agent for the Navajo Indians, reported that the Indians were stealing from settlers along the San

Juan River, near the eastern boundary of the reservation, and that the smallness or entire failure of crops, owing to lack of water and late rains, had left these Indians in that section in a starving condition.

Otherwise, no reports of depredations committed by this tribe have been received at these headquarters during the past year.

WHITE MOUNTAIN INDIAN RESERVATION.

The commanding officer, Fort Apache, Ariz., in forwarding to these headquarters a copy of report made to the Commissioner of Indian Affairs by Lieut. W. C. Rivers, Third Cavalry, in charge of White Mountain Apaches, in May, 1895, recommends the establishment of a separate agency for these Indians. (The agency now is at San Carlos.) This has been repeatedly recommended. (See annual report, Department of the Colorado, for 1893.)

The White Mountain Apaches are located near Fort Apache, and that place has been designated as a subagency, with an officer of the Army in charge. The agent resides at San Carlos, the agency for all the Apache Indians.

INDIAN SOLDIERS.

During the fiscal year Troop L, Second Cavalry, has been skeletonized, thus doing away with all enlisted Indians in the department except 16 authorized Indian scouts, as follows: Fort Apache, 4; Fort Grant, 5; San Carlos, 5, and Fort Wingate, 2.

While it is a pleasure to note that all officers and troops called upon to take the field on scouting duty with a view to capturing depredating Indians have performed their duty not only willingly but well, it is believed that Lieut. J. D. L. Hartman, First Cavalry, is deserving of special mention for indefatigable efforts, with a small detachment, to overtake and capture a murderer, supposed to be either the renegade "Kid" or "Massa," during May 15 and 16, 1895, making a forced march of 135 miles in two days.

POST EXCHANGES.

These institutions are becoming more popular as with time and experience they are improved in management.

They accomplish admirably the purpose for which they were established, improve company messes, and add to the contentment of garrisons. I know of no officer of experience who would favor a return to the pernicious system of sutlers' or post-traders' establishments at our military posts.

LYCEUMS.

A statement of what has been accomplished at the various posts throughout the department during the past year in carrying out what is enjoined in General Orders, No. 80, of 1891, Adjutant-General's Office, is submitted as Appendix A, and shows for itself that much good has been the result of the close attention given and interest taken in this subject by all concerned, except in the case of one of the most important posts in the department, where it will be observed that the commander reports a lack of interest in this important branch of military instruction. I hope he will find means during the next lyceum season of surmounting obstacles he may have heretofore encountered.

Most of the essays mentioned were submitted to the department commander, who, after reading them, caused their return to the writer; this in accordance with the Department General Orders, No. 33, of 1891.

GYMNASIUMS.

I have the honor to renew the recommendations made in my annual report as commanding general, Department of Texas, in 1892, on the subject of the establishment of gymnasiums at all posts.

As there remarked:

Gymnastic training would vary the tedious monotony of drills and exercises that, when once learned by the recruit, can not always retain his interest; if one-half the time now devoted to company drill should be given to gymnastic instruction, our soldiers would not only be better prepared physically for service in the field, but the discontent, a frequent cause of desertion that more or less pervades our ranks, could be greatly lessened if not ultimately removed. England and France have followed Germany in the matter of physical training of troops, and in striving for a perfection earnestly desired by our officers and soldiers, we should not, in this most important instruction, remain too far behind them all.

LAUNDRIES.

I also desire to repeat the recommendation made in my annual report in 1893 on the subject of laundries. In my opinion, the establishment of steam laundries at permanent posts in this department and their operation as far as practicable at Government expense is almost a necessity. Enlisted men are now required to use many more articles of clothing requiring frequent washing than formerly, such as white trousers and blouses, linen collars, bed sheets, pillowcases, etc. The extra laundry expense involved falls upon the enlisted men, although no corresponding increase of pay or allowances is made. At many posts in this department the wearing during many months of the year of the authorized duck clothing is imperative; the troops are required of course to keep this clothing clean and neat, and a considerable increase in the monthly laundry bill results. In justice to the soldier this expenditure should be reduced to the minimum. Possibly by some additions to the plant of post sawmills and the utilization as far as practicable of the labor of troops no great expense would be involved.

SUBSISTENCE STORES.

It will be observed by reference to the report of the chief commissary of subsistence (Appendix I) that a very satisfactory showing is made in the loss of all classes of stores by shrinkage and condemnation, compared with that of last year, being a reduction of over 30 per cent in money value in favor of this year.

TRIALS BY COURTS-MARTIAL.

During the past year there has been a very favorable falling off in the number of trials by general courts, viz, from 266 last report to 181 this report; also a very marked decrease in the number of trials by inferior courts. There were no trials of commissioned officers during the year.

TARGET PRACTICE.

Practice at known distances with the caliber .30 magazine rifle, model 1892, is being pursued by the infantry in this department. The cavalry, not having been supplied with the new carbine, has had no practice, and it is now doubtful if any will be held this season.

SIGNALING.

In September, 1894, the best record in heliograph signaling ever made in any part of the world was surpassed in this department by 58 miles, a heliogram having been successfully sent a distance of 183 miles.

I take pleasure in specially commending Capt. W. A. Glassford, Signal Corps, chief signal officer of the department, under whose direction the feat was accomplished. I highly appreciate his zeal and energy in the several branches of his special department.

PAY OF CIVILIAN CLERKS.

I would invite attention to the following comparison of monthly pay of civilian clerks at these headquarters:

Supply department:	
Highest rate.....	\$150
Lowest rate.....	100
Adjutant-general's office:	
Highest rate.....	100
Lowest rate.....	83

From the foregoing it will be seen that an unjust discrimination exists against the clerks in the adjutant-general's office, whose duties and responsibilities are at least equal to those in the supply departments.

It will be observed that the highest-paid clerk in the adjutant-general's office—the chief clerk—receives the same compensation as the clerk of the lowest grade in the supply departments. Before recent legislation changed the status of general-service clerks they were, in addition to pay, entitled to the privilege of retirement and other privileges, such as medical attendance and the right to purchase from the subsistence and quartermaster's departments. They are no longer entitled to these substantial privileges, while their pay remains the same as before.

While it is not thought that the rates of pay of clerks in other staff departments are too high, it is believed that the rates of pay of clerks in the adjutant-general's office are relatively much too low; and it would seem but meet and proper that this fact be brought to the notice of our next Congress with a view to a remedy being applied.

REPORTS OF DEPARTMENT STAFF.

For particulars relating to administration in the various staff departments attention is invited to the reports of the department staff herewith submitted. I take pleasure in attesting the fidelity and efficiency with which all staff officers at these headquarters have performed their duties. Appended are reports of—

First Lieut. John S. Mallory, Second Infantry, aid-de-camp, acting adjutant-general (in absence of Lieut. Col. Thomas Ward, adjutant-general of the department).

Capt. A. C. Sharpe, Twenty-second Infantry, acting judge-advocate.

Maj. E. B. Atwood, quartermaster, chief quartermaster.

Capt. E. E. Dravo, commissary of subsistence, chief commissary of subsistence.

Lieut. Col. D. L. Huntington, deputy surgeon-general, medical director.

Lieut. Col. J. P. Canby, deputy paymaster-general, chief paymaster.

Capt. W. A. Glassford, Signal Corps, chief signal officer.

Second Lieut. G. T. Langhorne, Third Cavalry, acting engineer officer.

My personal aids-de-camp, First Lieut. John S. Mallory, Second Infantry, and Second Lieut. G. T. Langhorne, Third Cavalry, have performed the duties assigned them with industry and intelligence.

Very respectfully,

FRANK WHEATON,
Brigadier-General, Commanding.

The ADJUTANT-GENERAL OF THE ARMY,

Washington, D. C.

REPORT OF BRIG. GEN. ELWELL S. OTIS.

HEADQUARTERS DEPARTMENT OF THE COLUMBIA,
Vancouver Barracks, Wash., August 15, 1895.

SIR: I have the honor to submit my report of the affairs of this military department as affected by the more important events and proceedings which have taken place and been conducted therein since the rendition of the last annual report in August, 1894.

SERVICE OF TROOPS IN AID OF CIVIL AUTHORITIES.

The year has been one of unusual quiet. With a single exception, and that of little moment, nothing has transpired within department limits which demanded the employment of troops to aid the civil authorities in the enforcement of law. With that exception, nothing has transpired to foreshadow a necessity for such employment, unless it was the renewed attempts at mining recently made in the Idaho Cœur d'Alene region, which it was supposed by many would be attended by the usual serious disturbances, but which thus far the State authorities have happily held in check. The exception referred to is deemed of slight importance, but only in so far as the military services actually rendered were concerned. The troops were called to restore and preserve order at an Indian agency, and their presence alone immediately produced the accustomed condition of tranquillity. But had circumstances demanded their employment to the full extent of action which their directions permitted, results novel and attended with many vexed questions for legal determination might have been the consequence. The facts attending this call may be sufficiently stated to understand its necessity very briefly as follows: The Umatilla Indians have taken reservation lands in severalty under the Congressional acts of 1887 and 1891. Two of them were arrested by the reservation Indian police on charges of having committed certain offenses, were tried by its Indian court, were declared guilty, sentenced, and imprisoned. They employed lawyers in Pendleton, Oreg., who commenced proceedings for their release and brought actions for false imprisonment in the State courts, claiming that the allotment acts above cited conferred citizenship upon all Indians who had taken lands in severalty under their provisions and that their clients were therefore citizens of the United States, and as such were not subject to Indian police control nor amenable to the jurisdiction of Indian courts. The circuit court of Oregon decided the points well taken and disposed of the cases accordingly, whereupon the Indians and their friends proceeded to celebrate their victory by demonstrations which defied the authority of their agent and threatened a serious outbreak. Upon the application of the agent for protection, a troop of cavalry was sent to the agency from Fort Walla Walla on March 11, where it remained until the end of that month, when, the unusual excitement having passed, it was returned to its permanent station—the officer in command of the troop having been instructed after his arrival at the agency to furnish all needful protection to the agent and his employees in their endeavor to maintain order, and that the Indians, although they might hold lands in severalty by allotment and under a

restricted patent and be citizens under the act of 1887, were still subject to United States guardianship established by treaty and statute. The agent continues to exercise his authority, the usual quiet prevails throughout the reservation, and the decision of the circuit court of Oregon will soon, I am informed, be the subject of review by the supreme court of that State.

If this decision gives the correct interpretation of the allotment acts, the use of troops as directed might have been illegal, or at least the instructions given them erroneous, for from it the conclusion must be accepted that the Indian who has received land under those laws is removed from the Government control heretofore exercised through the Indian Bureau. Even if the Indian police had been organized in conformity with express law, even if the United States Indian courts had been created and given a certain defined jurisdiction by statute (instead only of receiving recognition in the yearly appropriation acts of Congress and the allotment acts which we are considering, as is the case), and the agent was obliged to redress all wrongs and punish offenses through them, still an allotment Indian, though living within a reservation, could not be interfered with by the police nor be made amenable to the reservation courts, since the courts of the United States and those of a State can not exercise concurrent jurisdiction in the same matter or over the same subject, and since the Indian, being a citizen, is entitled by the allotment laws "to the benefit of and is subject to the laws, both civil and criminal, of the State in which he resides." It follows from the decision that another radical departure in Indian policy is now and has for some time been in active operation; that former independent Indian nations which forfeited or bartered their sovereignty and were reduced to dependent nations, the members of which finally became wards of the Government as the courts of the conqueror have declared, are rapidly being placed, individually, under State supervision. As far as a State is invested with control so far must the General Government working through its Interior and War Departments let go, and it can only act in matters of State jurisdiction when importuned to do so by the State authorities.

It is quite important that the legitimate use of troops on reservations occupied by Indians who have taken lands in severalty under the allotment laws should be understood by officers of the Army, as present indications make it probable that their services will frequently be demanded under such conditions. Thus far in all the legal interpretations of those laws which have been announced the status of the Indian who has taken possession of land under them is considered from the standpoint of citizenship. The fact that he has received land and entered upon it, though holding a qualified estate therein, is deemed sufficient in itself to convert him into a citizen, and as such his privileges and responsibilities are identical with those of any white citizen, unless expressly abridged by statute. The law has not placed any limitations upon his status as a citizen, even if it has imposed a condition of nonalienation upon the land which constitutes the basis of his citizenship. Hence his rights and privileges are the same as those of any other citizen of the United States or of the State wherein he resides. It would seem, however, that the law, strictly interpreted, might lead to a different conclusion. It declares every reservation Indian "to whom an allotment shall have been made under its provisions" a citizen of the United States; but must not that change in personal condition follow the full consummation of the allotment? The law of 1887 provides that the Indian may take and enjoy a certain quantity of land, which

shall be held in trust for his benefit by the United States for twenty-five years, or as much longer time as the President may direct, when he shall receive a patent in fee. The first act of allotment is attended by a trust deed which continues title in Government and is followed after twenty-five or more years by an unrestricted patent which vests it in the Indian or his heirs. For the period of twenty-five years or more the Indian is simply a cestui que trust of the land without any common-law rights therein, and does the law intend to confer complete citizenship upon the inception of this particular guardianship? The section of the act which confers citizenship (sec. 6) reads:

That upon the completion of said allotments and the patenting of the lands to said allottees, each and every member of the respective bands or tribes to whom allotments have been made shall have the benefit of and be subject to the laws, both civil and criminal, of the State or Territory in which he may reside; * * * And every Indian born within the territorial limits of the United States to whom allotments shall have been made under the provisions of this act, * * * is hereby declared to be a citizen of the United States, etc.

It is apparent that under a fair construction of this section citizenship is conferred upon the completion of the allotment, and upon the completion of the patenting of the land or when the unrestricted patent is given, and there is nothing in the law which renders this conclusion untenable, unless it be the last clause of section 5, which declares that the reservation Indians "who have availed themselves of the provisions of the act and become citizens of the United States" shall be preferred before those who have not done so, for service in the reservation Indian police force, which clause in itself appears to weaken the late Oregon decision that he is not amenable to arrest by that police because a citizen, since he must be appointed to serve in it by the United States agent who controls it and must make his appointments from Indians living on the reservation and under his charge.

But I am aware that this view of the subject has not been taken by any of the United States or State courts which have been called upon to construe the act, nor even by the Indian Bureau, which probably framed it. All interpretations consulted hold to the opinion that citizenship is conferred when the trust deed of allotment passes, and the courts have so decided when that question has been presented for determination; yet, notwithstanding the unanimity of judicial expression in this respect, there seems to be a marked difference of opinion as to the character of jurisdiction which extends over reservation allotted lands, whether it is in the nature of Federal or State.

According to the Constitution an Indian who is a citizen of the United States is a citizen of the State in which he is domiciled. According to the act of 1887 an Indian allottee is "a citizen of the United States, is entitled to all the rights, privileges, and immunities of such citizens," and "shall have the benefit of and be subject to the laws, both civil and criminal, of the State" of which he is a resident. The Oregon court finds from these provisions that the Umatilla Reservation allottee is a citizen, resides in the State of Oregon, is entitled to the privileges, and is subject to the responsibilities granted and imposed by its laws in the same manner as any other of its citizens; that it has jurisdiction of his person, and is entitled to pass upon the character of his offenses, although known to have been committed within the limits of the reservation; and hence, as a consequence, that the State courts have sole cognizance of all crimes and misdemeanors of which allotment Indians are guilty or which are committed upon allotted reservation lands. Decisions of other legal tribunals are to the effect that such lands remain under United States control—at least until complete

title thereto has been passed by the final and unrestricted patent. If so, offenses committed thereon, or within any portion of an Indian reservation, can be considered only by its courts. The land retains the character of Indian country and Congress has the right to exercise exclusive legislation over it. This view is sustained by section 3 of the act of February, 1891, wherein it is provided that if it shall be made to appear to the Secretary of the Interior that reservation allottees can not occupy their allotments with benefit to themselves because of certain disabilities, the allotments "may be leased upon such terms, regulations, and conditions" as the Secretary shall permit. Under this power, and subject to his approval, the Secretary of the Interior has authorized leases to be made under regulations formulated by the Commissioner of Indian Affairs.

Although Congress may have conferred citizenship upon the allottee, it does not follow that it thereby transferred control and jurisdiction over the land which he is permitted to occupy and which it holds in trust for his use and benefit. There is no express act of cession and it must be presumed that Congress intends to execute the trust which it has assumed. The allottee may be a citizen and as such not amenable to the reservation Indian court—a so-called court presumedly without power or jurisdiction, since neither has been bestowed or defined by Congress—but the court of Oregon may be in error in supposing that it had the right to judicially find that fact and discharge the prisoners, for whence did it derive its jurisdiction over the place where the alleged offenses were committed, where the tribunal which awarded the sentences sat and the imprisonment was imposed? The status of these citizen Indians appears to be the same as that of a white citizen legally domiciled on a military reservation or any other tract over which the United States has jurisdiction.

These allotment acts are difficult to construe. Like most Indian legislation, they bristle with points which furnish a rich opportunity for the most inharmonious legal opinions. The courts have probably settled the point that citizenship and the restricted grant of land which attends allotment, whereby the allottee is deprived of the power to alienate or to lease except under specified conditions, are in nowise inconsistent, and those of the United States express the belief that the Government control of reservations through long-prevailing agency management continues unabridged though portions of the same are occupied allotments. But what will be the status of the allotted lands of a reservation still held under the trust deed, as regards control and jurisdiction in so far as the United States and a State are concerned, when all of its unallotted lands have been sold out by the tribe, have been opened for settlement, have been purchased, and are occupied by the white citizens of the State within the limits of which the tract comprising the former reservation is situated?

As to the employment of troops in the enforcement of the law, the question is presented as to what extent these allotment acts have modified those sections of the Revised Statutes which authorize their use on Indian reservations in preserving the peace, in assisting agents to arrest and turn over for trial, or in summarily removing objectionable persons, especially upon those reservations where allotments have been granted. Citizenship and asserted State jurisdiction again complicate matters. The citizen Indian is legally domiciled within reservation limits, and the troops can not summarily eject him. If he is accused "of any crime, offense, or misdemeanor" the agent must "procure his arrest and trial," and may be assisted by troops in his endeavors. If

the Indian citizen is answerable to State authority for his conduct the troops should not make the arrest for the State, and the United States agent could not well prosecute him in the State courts. Under the Oregon decision, then, these statutes can not apply to the Indian who has received citizenship, however circumstanced, and the legal difficulties which will attend the proper use of troops when summoned to protect an agency will be numerous unless they can in some manner be met by efficient action, and such as a proper police and management of the Indian community and agency affairs shall warrant. Even under the Oregon decision the necessary police requirements will be a sufficient basis to insure the preservation or restoration of peace at an agency by means of troops as long as it has nonallotment Indians to manage and provide for, though it may be a delicate business involving serious consequences for an officer of the Army to act in matters wherein the declared privileges of allottees are concerned.

There is, however, no doubt but that a reservation allottee, though a citizen and under State supervision, is responsible to the United States Government and answerable to its courts for his offenses committed on the nonallotted portions of a reservation; and there can be but little doubt, should he mingle with Indians who have not taken grants of reservation lands at an agency in the Indian country "over which the general laws of the United States as to the punishment of crimes" extend, but that he subjects himself, in like manner as those with whom he associates, to all the police regulations which may be there in force, and can be made to suffer the penalties which they prescribe. It is possible that under such circumstances he may be legally tried and punished by a reservation Indian court, which has been established as a police measure to assist in regulating the conduct of the members of the community by the Interior Department, which is recognized as valid by Congress and is sustained by its yearly appropriations. If this conclusion is admissible the efficient action of troops in Indian agency disturbances can easily be legitimately conducted, and the instructions given in March last in the Umatilla case were clearly within the law, whatever construction may be placed on Indian citizenship.

Since writing the above a troop of cavalry has been sent to the reservation of the Nez Perces in Idaho, by War Department directions, to protect the interests of the Indians against the unlawful interference of white intruders, whom it is supposed may be drawn there by the hope of securing some portion of the large amount of money to be received by the Indians in payment for unallotted lands which they have sold to Government. The duty of the troop is to assist the agent to preserve the peace and to protect the Indians who have taken allotments (and who, as it would appear from the decisions of the courts, are citizens of the United States and of the State of Idaho) from the skilled manipulations of evil-minded white aggressors who may be attracted by the opportunities which that field affords.

POSTS, GARRISONS, AND RESERVATIONS.

The destruction by fire last winter of the barracks at Fort Townsend compelled the withdrawal of its small garrison, consisting of a single company of infantry. The post and reservation were without any military importance, and on June 28 were transferred to the Secretary of the Interior for disposition. All other of the former garrisoned posts of the department have been maintained, with very little change in permanent force. During the past year only \$16,370 has been expended

upon them in the construction and repair of buildings, but all are in comfortable condition for troops, and those to which the belief of permanency attaches have received considerable improvement. The few changes in permanent garrisons consist in an increase in the one at Vancouver Barracks of two companies of the Fourteenth Infantry (the one stationed at Fort Leavenworth, Kans., having joined on October 9 and the other from Fort Townsend, Wash., on the 6th of March), which placed the entire Fourteenth Infantry at Vancouver, giving the post a mean strength of 39 officers and 593 enlisted men; also the interchange of stations last April of Companies E and G, Fourth Infantry, between Forts Sherman and Spokane, which were not attended by any expense, as post transportation was employed to effect the movement; and the removal to other points of the post noncommissioned staff and hospital corps detachment of Fort Townsend. These are the only changes of organizations effected in permanent garrisons during the past year. Recommendations with regard to others have been in contemplation, as for instance, to send an additional troop of cavalry to Fort Walla Walla and to make slight modifications in the Fort Sherman and possibly the Boise Barracks garrison, but they have been held in abeyance awaiting the determination of the authorities on rumored regimental interchanges.

All uncertainty on questions of Treasury and War Department supervision over the reservation of Fort Canby, Wash., has been amicably adjusted, and under formal orders certain subdivisions for the use of each have been set aside. The light-house, life-saving, and military authorities have separate and well-defined control over certain tracts of land, with rights of way over convenient approaches, and now harmonious relations exist and will doubtless be continued. The great importance of Fort Canby as a point at which coast fortifications must be maintained is conceded, and improvements in post grounds and buildings, that they may be rendered comfortable for or at least meet the exigencies required by a permanent garrison, should be made. All land at present available for post purposes is the very narrow strip between the base of the hills and high-water mark. This does not give space or facilities for tactical instruction, the observance of ceremonies, or even for the convenient arrangement of the necessary post buildings and an efficient police. Should certain small islands in the tide lands some 200 yards to the front be connected by a continuous narrow wharf, or sea wall on piers, with the projecting points of high land which extend into Bakers Bay and the inclosed space, be filled, the desired additional ground would thereby be secured, and the sewage now deposited on the sands to await the present unsatisfactory action of the tide would be at once carried away. The execution of such a project would be attended by a considerable expenditure of money, but it is believed to be quite essential for the interests of the service and in the direction of a wise economy. It is practicable and will be investigated to ascertain the cost of carrying it out. The Canby water supply, heretofore scant, has thus far this year been abundant, notwithstanding the present very dry season. There the engine, tanks, and other appliances used in the water system of Fort Townsend were placed and have given the results which were anticipated. Funds for repairing the pipe lines have been furnished, and if the cisterns recommended sometime since can be constructed, the post will be supplied with sufficient water at any season of the year for all necessary purposes.

The dispute over land lines between Boise Barracks and citizens of Boise, which has existed for some time, has been satisfactorily settled. The reservation has been resurveyed and the corrected boundaries published in orders. Its limits are now so fixed and marked that questions of title can not hereafter arise. The new water system, by which water is piped from the mountain springs to the barracks, has proved a success. The appearance of the post has greatly improved since last year because of the freshness produced by the slight irrigation that the system makes possible. Present indications point to the permanency of this post. The section of country within easy reach, and the possible demands for troops therein, suggests the practicability of an addition to the garrison, which should really consist of a battalion of cavalry or infantry, that it might be effective when summoned for detached duty and have proper numerical strength for efficient instruction.

The long-continued uncertainty attending the determination of the question of title to the site upon which Vancouver Barracks stands has prevented or deferred many needed improvements to buildings and grounds. The extended litigation in this matter, affecting 430 of the 640 acres which comprise the reservation, and to which the corporation of the Catholic bishop of Nesqually and representative officers of the United States Army were joined as parties, recently terminated in a decision of the Supreme Court wherein the claim of the Government was sustained. The history of this controversy and the former proceedings taken by the Catholic Church to have its supposed legal demands duly confirmed covers a period of more than forty years—commencing prior to the date when the reservation was formally declared and set aside by the President for military purposes, though not before it was occupied by troops. The demands were based on the Congressional act of 1848 establishing the Territorial government of Oregon, which granted to Indian missionary societies having stations within its boundaries title to the land actually occupied and used by them for missionary work to the extent of 640 acres. To this amount (a large portion of which included the most desirable part of the present military reserve) the corporation asserted its ownership, claiming to have been in occupation at the time the act was passed, and holding under the former rights of the Hudson Bay Company, which had long before been in actual possession of it and a tract of adjoining territory. It filed its notice of claim with the surveyor-general of Oregon in 1853, and the application finally resulted in a decision rendered by the Secretary of the Interior in 1872, to the effect that it was entitled to only the fraction of an acre of land where a certain church stood which it was accustomed to use. It continued, however, in occupation of this and other portions of the reservation for some fifteen additional years, when, in obedience to War Department directions, it was forcibly dispossessed by the military authorities, whereupon it petitioned the United States district court for an injunction, praying at the same time for a decree of title and a surrender of possession of the 430 acres sought. This suit was brought in February, 1887, and terminated in the Supreme Court decision the present year, as above stated. The effect of this conclusive action upon the finding of the Secretary of the Interior, that the corporation is entitled to the fractional part of an acre of the reservation land, is not clearly and conclusively shown in the reported opinion of the court, nor has it been ascertained whether a patent for the piece has ever been tendered and accepted. It would appear from the court's rulings on the main point submitted by the plaintiff, and upon which it relied for ultimate success, that such finding was held to be erroneous.

This point, briefly stated, was to the effect that the Secretary, whose prerogative and duty it was to decide facts in public-land controversies, had duly found the fact of sufficient use and occupancy within the meaning of the act of 1848 by awarding to plaintiff a portion of the land in dispute, and hence, that fact established, the law decreed the plaintiff entitled to recover the entire amount claimed. The court held that both occupancy and amount might be questions of fact and the finding of the one was as much within the province of the Secretary as the other; and, while conceding his power to determine conclusively all facts arising in matters affecting the public lands, held that the kind or extent of occupancy which the statute intended as sufficient to satisfy its conditions, and thereby gain the privileges which it conferred, involved a question of law upon which a decision of the Secretary of the Interior was reviewable by the courts. Taking this question into consideration, it held that the land, at the passage of the act of 1848, was in the possession of the Hudson Bay Company; that the plaintiff could have been only a tenant at will or by sufferance of the company, and that such tenancy did not constitute that extent of use and occupancy which the statute contemplated as sufficient to carry a grant of land. Furthermore, it appeared in evidence before the court that the buildings and improvements, on the use of which in 1848 the plaintiff relied to establish the occupancy required by law, had been since appraised by Government as the property of the Hudson Bay Company, which had received pay for them out of the appropriation of \$650,000 made in 1870 to liquidate its possessory rights and claims in the United States. To be sure, the decision of the Secretary of the Interior had not been appealed, but quietly remained uncontroverted for a number of years, and the forcible eviction on the part of Government constituted the basis and was the direct cause of the suit upon which the Supreme Court gave its opinion; still that decision so entered into the case of the plaintiff as to become a very material point in the controversy, and therefore was necessarily a subject for review and opinion if it was not definitely passed upon. Besides, the plaintiff petitioned for a decree of title and the surrender of possession of the entire 430 acres of land of which the parcel awarded by the Secretary formed part, and was denied in all things asked for. Hence it would seem that all questions regarding the title to the reservation and every portion of it had been judicially determined and that no further legal complications regarding it could arise. The department authorities will hold such to be its condition unless instructed to the contrary. This final settlement of a long-disputed question of adverse title to the military reservation, admirably located for the convenience of troops and for their legitimate employment within this Northwestern country, upon which large expenditures of money for army purposes have been made, is of great advantage to the Government, since the importance of the post is admitted and its desired permanency secured. Properly situated to contain one of the large garrisons of the future which the policy of the War Department has in contemplation, it can now with safety be improved and developed.

In my last annual report I recommended that the garrisons at Forts Spokane and Sherman be concentrated in or near the city of Spokane, and that those posts be abandoned as stations for troops; also that Fort Townsend be given up and its garrison removed to Magnolia Bluff, near Seattle. Further consideration and the experience of the past year confirm my impressions that such action would be for the good of the service and the best interests of the section of country should the employment of troops in the enforcement of the laws be required.

Through legislation and the efforts of the citizens of Spokane the consummation of the first measure now rests in the wise discretion of the War Department. The second has been partially effected by the abandonment of Fort Townsend, made necessary on account of the destruction by fire of its barracks. It is, I think, generally conceded that a garrison should be maintained on Puget Sound, but there seems to be a diversity of opinion as to the particular locality at which it should be placed. The numerical strength of the Army will permit only a very small force to be held in that section, and that should be concentrated at the point which offers the best advantages for the efficient performance of the duties which may possibly be required of it. These may demand resistance to foreign aggression, or assistance during internal disturbances to restore conditions of peace and order. Adequate protection of the interests and property of the inhabitants of the Sound from the possible attacks of an active foreign enemy would seem to call for a line of defense at the Sound's entrance, such as strong defensive works upon the excellently situated military reservation of Marrowstone Point, assisted by fortifications at Admiralty Head and the bluffs in rear of Point Wilson, would give; also fortifications at Double and Foulweather bluffs and Tala Point as a second barrier; also another (and by nature a much stronger line than the first), with Magnolia Bluff as its principal station, and the fortifications which the Army Fortification Board has recommended to be constructed at various near points for the protection of the expensive naval improvements at Port Orchard, as supports. All of these necessities can not be met with the military strength at hand. Only initiatory action can be taken, and that should be such as present exigencies demand for the protection of the more important Sound cities and the Government interests which center about the Port Orchard dry dock, and which the system of defense recommended by the Fortification Board fully meets. In that system 25 acres of the boldest portion of the bluff, with heavy fortifications thereon, are imperative, and what better location for the present settlement of a garrison could be found? Other advantages of the location as a point of defense at which troops should be stationed have been presented in previous reports and need not be repeated here, but its importance as a most desirable situation for a military post may be strongly supported, leaving entirely unconsidered its admirable defensive features. Presenting the readiest and speediest means of movement to all the principal inhabited parts of that section, the center of that magnificent stretch of country which skirts the Sound, a bold promontory of the mainland and not separated from the interior by deep-water obstructions, contiguous to competing lines of railways, it seems to me to offer more inducements for selection as a military post from which to call troops to act in civil disturbances than any other spot in Washington west of the Cascade Range of mountains. Troops in that portion of territory should be so placed as to be available both for resistance to outside attack and to give assistance in internal disorders, and this twofold requirement should not be lost sight of in fixing upon a locality for their permanent station.

Considerable labor has been expended in looking after the unused military reservations of the department to ascertain accurately their boundaries and to arrest interference by squatters. Between the years 1857 and 1890 43 reservations were declared along the main shore lines of western Washington and on San Juan Islands, only 2 of which have ever been occupied by troops. Search has developed the fact that some of these are entirely covered by perfected claims which had their incep-

tion prior to dates of declaration. Others (their uses for military purposes not being apparent) have been relinquished or turned over to the Secretary of the Interior for disposition. Of the forty-three, twenty-nine still remain, but many of the remaining ones are so cut up by private land titles arising through donation claims and erroneous surveys as to be comparatively worthless. Their condition, as far as could be ascertained from department notes and reports and a cursory examination of the records of the land office at Olympia, were reported a short time since, when recommendations for the transfer of a number to the Interior Department were made. Orders relinquishing 4 in the Narrows of the Sound were issued, but it is believed that others can be given up without detriment to the service. Under instructions issued late last fall the acting engineer officer of the department, with a small detachment, is now making a careful examination of their condition as regards boundaries, titles, illegal interference, and occupation. It is probable that upon some of the older and most important ones squatters will be found who have been in possession for many years and who have made quite extensive improvements, and if so the necessary action will be taken. At the mouth of the Columbia River and on the military reservations of Sand Island and Scarborough Head—both very important reservations and necessary to be retained intact—attention has been attracted to the recent action of supposed trespassers, who have been properly instructed to withdraw from the Government land within a brief period of time. When the necessary information with regard to all of these reservations which is now being sought is obtained, full report will be submitted.

Much valuable information regarding the topographical features of central Idaho was obtained from the reconnoitering detachments under Lieutenants Leyden and Elliott, of the Fourth Infantry and Fourth Cavalry, respectively, which were sent into that section of country last summer. It was ascertained by them that previous information regarding it was very inaccurate and that even the courses of rivers and the main divides had been erroneously reported. Lieutenant Elliott's party, which penetrated the country far up the Bitter Root Mountains and south of the Lolo trail, encountered a heavy fall of snow early in September and was obliged to retrace its steps rapidly to obtain grazing for its animals. The old Lolo trail, traversed by the Lewis and Clarke expedition and subsequently by miners by which to enter Montana, has not been used for a number of years and in some places is nearly obliterated, and the country on either side of it has never been previously explored to any extent. It is a matter for surprise that so little has hitherto been known concerning it. The information obtained corrects many faulty impressions and will prove of value should it become necessary to operate in that territory for any purpose.

INDIANS.

Last year I remarked, when referring to Indian affairs, that "for the first time in the history of this military department there is nothing to report on this subject. The Indian population has not created any disturbance, nor been the cause of any hostility which called for the intervention of the Army." The remark is still true in so far as any Indian hostile intent against white inhabitants is concerned. As shown in preceding pages of this report, troops have been sent to agencies to assist in upholding the authority of agents and in preserving the constituted conditions of peace and order which have been and will for an

indefinite time be more or less threatened by excitement produced through the practical application of the allotment laws, but the military service which has been and may in the future be required in such emergencies will probably be of slight importance in so far as danger to citizens beyond Indian reservation lines is concerned. It would seem from present indications that the service which troops will be called upon to render will be in the interest and for the protection of the Indian instead of the white man, and from this aspect of the subject I would respectfully call the attention of the War Department authorities to the condition of the Indians known as the Columbia River bands, concerning whom I wrote last April. According to a recent enumeration, made by an officer detailed to take it, they number 918, of whom 284 are men. They are scattered in small bands along the Columbia between Pasco, Washington, and the eastern slope of the Cascade Range of mountains, a distance of about 165 miles. Upon the ratification of the Governor Stevens treaties of 1855 most of them removed to reservations, but soon returned to the river, where they have since lived (and have the right to remain under treaty stipulations), procuring subsistence in part by fishing and in part from farming or laboring for the white inhabitants residing near. Having little in common with the reservation Indians, the agents have only slight knowledge concerning them. They appear to entertain the belief that they are subject to army control and frequently apply to these headquarters and at military posts for redress or relief. These Indians are entitled to the benefits of the homestead and allotment laws. Many have endeavored to avail themselves of these privileges, and by the advice and assistance of army officers and the land office authorities some have acquired land. Others, notably those living near the mouth of Rock and Alder creeks, made selections of lands and settled thereon, but, ignorant of the action which the laws required in order to complete their claims, failed to make their holdings good. They complain that white men dispossess them and seize upon their improvements and fishing privileges. Doubtless they have suffered a good deal and require aid and protection. The difficulty seems to be that they settle on unincumbered land without any knowledge of the section lines of the surveys which have been made, never seek to have the boundaries of their claims adjusted thereto, and fail to file at the land office an intelligent paper. In presenting these facts at considerable length last April I asked that I be permitted to send a competent surveyor and interpreter among these Indians to securely settle them on such definitely described parts of sections of the unincumbered land as they might choose and thereupon to assist them in filing their claims properly—the only extra Government expense to attend these proceedings to be the compensation of the interpreter. I consider the rendering of such assistance very important both to the Indians and also to the white neighborhoods in which they are living, and respectfully renew my application.

TROOPS—STRENGTH, CONDITION, EFFICIENCY, AND DISCIPLINE.

The mean numerical strength of the department in officers and enlisted men for the last fifteen years has been 1,630, and during the year just past it has been 1,651. This force has been adequate to meet all calls involving detached or other duty. Could it be more conveniently placed, and as recommended in this and former reports, its efficiency would be increased, and its strength ample probably to answer all demands which conditions and circumstances in this extreme northwestern country

would present for several successive years. There, however, appears to be a strong desire on the part of citizens having pecuniary interests in Alaska for the establishment there of one or more military stations. I do not know how extended have been the efforts to accomplish that end, and I do not perceive any urgent necessity for their favorable consideration. The civil government created by the act of Congress of 1884, and the Treasury Department, acting through its marines, its agents, and the force held at Sitka, exercise successful supervision over the affairs of the Territory. Although its fishing and mining interests are gradually becoming more extensive and considerable capital is now being invested, its increasing white population is not permanently domiciled and apparently never will be. The Territory at one time constituted a distinct military department, having a force of about 300 men scattered at five different locations (a garrison at Sitka having been maintained for ten years), but it was merged into the Department of the Columbia in 1870, and in 1877 all troops were withdrawn. The experiment was without compensating advantages, though at the time the Territory had no established civil government, and since then neither the increase in population nor the money investments made have produced a state of affairs there which requires the return of permanent garrisons. Without them the present department force appears to be adequate to meet all probable contingencies of the service.

The mean enlisted strength of the department for the last fiscal year has been somewhat greater than that of any other year since 1887. It numbered on June 30, 1895, 1,559 men, and on June 30, 1894, 1,431; there being a gain during the period of 632 and a loss of 504. Outside of the increase caused by the transfer of a company of infantry from Fort Leavenworth to Vancouver Barracks and the taking up of 17 men from desertion, the gain is due to enlistments, of which there were 555—320 of which (57 per cent of the whole number) were made in this department, and of the 320, 157 were regimental. The bulk of the loss was occasioned of course by discharges, of which 403 were given—26 per cent of the mean enlisted strength of the command. It is noticed that only 40.6 per cent of the discharges were given for expiration of service, while 28 per cent were granted on application for furlough and discharge upon the termination of three years' service. Five and four-tenths per cent of the discharges were purchased, 4.4 per cent were given for disability, and 7.1 per cent under sentences of courts-martial. Nearly all the remaining losses were due to desertions, of which there were 67 (71 according to returns, but 4 occurred in June, 1894), giving an increase of 7 in number over the preceding year, with no perceptible increase in percentage—a yearly rate less doubtless than ever before in the history of the department.

The ascertained causes of desertions through boards called under the provisions of army regulation 117 will be found in the accompanying report of the acting judge-advocate. In the majority of cases the boards confessed inability to discover valid reasons, which are as numerous as are the influences of the unpleasant features of army life upon the varied characteristics of a small class of soldiers who are unrestrained from committing crime by any sense of honor, and which are, too, extremely variable in consecutive years at the same stations and under like circumstances. For instance, comparing results in different regimental organizations, we discover in the last as compared with the preceding year an increase of 20 per cent of desertions in the Fourth Cavalry, a decrease of 50 per cent in the Fifth Artillery, a decrease of 30 per cent in the Fourth Infantry, and an increase of 60

per cent in the Fourteenth Infantry—the average per cent of all desertions for the last year in these organizations, according to ratio of strength represented, being 6.1 for the Fourth Cavalry, 5.2 for the Fifth Artillery and Fourteenth Infantry, and 2.6 for the Fourth Infantry. Comparing posts, an equally unexplained showing is found. There has been a decrease of 80 per cent at Fort Spokane, of 50 per cent at Fort Canby, an increase of 20 per cent at Fort Walla Walla, Vancouver, and Boise Barracks, of 60 per cent at Fort Sherman, and 130 per cent at Fort Townsend. Another year the figures may be reversed, the results depending largely on the character of recruits received and the outside influences which attract them. Fewer deserters are now arrested and delivered to the military authorities than formerly, owing, it is believed, to the recent reduction in the amount of apprehension money allowed.

If the infrequency of confinements and court-martial trials is an indication of discipline, the troops of the department, when measured by that standard, are gradually improving. Mean enlisted strength taken into the computation, it is ascertained that confinements for the year ended last June were 20 per cent less than for the previous year and that there were 21 per cent fewer trials by courts-martial. The number of general court-martial cases was 7 per cent less and there was a large reduction in trials by inferior courts; and yet, notwithstanding this reduction in confinements and trials, there was a difference of only 9 per cent in the number of men tried by all courts between the total of each of the two years considered. These seemingly contradictory statements are reconciled by the fact that many men are confined and tried more than once during the computed period. For instance, in the last year 26 per cent of the men tried were tried more than once, and some five or six times. The percentage of men of the garrison of each post tried by courts-martial of every kind during last year was, for Fort Canby, Vancouver Barracks, and Fort Spokane, less than 30 of mean strength, for Fort Sherman and Boise Barracks, 38, and for Fort Walla Walla, 54, which is a marked reduction in Forts Canby, Sherman, and Spokane, a slight reduction in Boise and Vancouver Barracks, and an increase of 8 per cent in Fort Walla Walla. This ratio at every one of the posts might still appear large, but it should be remembered that the great majority of cases tried by courts only involved very short illegal absences or slight infractions of discipline, offenses which in former years would be met either by reprimand or a brief confinement in the guardhouse and release without trial.

In March a detailed system of practical instruction was prescribed, which went into effect on April 1. The orders prescribing it directed the kind and extent of practice which should be had in every month of the practice season, ending with October, for each arm of the service concerned. The absence of detached duty has enabled the troops to prosecute the course and become efficient in tactical exercises and maneuvers in so far as strength of garrisons would permit. During the ensuing two months marches, camping, escort and outpost duty, attack and defense of positions, with attendant reconnoissance and hasty intrenchments, will be practiced. Field notes, sketches, journals, and maps of routes traveled will be submitted, with reports on the character of marches and nature of exercises. These exercises must for the most part be conducted by posts independently of each other, as transportation by rail is not available and the amount of post transportation at hand for such purposes is limited. I do not, however, place much importance on the training acquired in a camp maintained for

several successive days, as for two or three weeks at a time. The interest of officers and men so situated quickly diminishes and soon is lost. The march and bivouac, with troops divided into separate forces and marching in the same neighborhood with hostile intent, uniting occasionally for practice in a camp of very short duration, give the best results. This is possible for most of the garrisons of the department which may keep within a radius of 20 or 30 miles from the posts and so circumstanced that they can be readily supplied and can repeat their field exercises several times during the fall months of the year.

Since July 1 I have visited all of the posts of the department and inspected all with the exception of Fort Walla Walla, where time did not permit of a sufficiently extended stay for the full performance of that duty. I inspected it very completely the latter part of June, 1894, and on this latter occasion had only opportunity to witness a review and look through the barracks. It would have been more satisfactory had the visits been deferred until later, when troops would have received the full benefits of the season's post instruction. The troops, however, made a satisfactory appearance, showed careful instruction in tactical exercises, and at some of the posts displayed a marked proficiency therein.

All commanding officers have been active in the interests of Government, and their troops are in a good state of discipline. The posts are economically administered. Department instructions were given regarding reported expenditures as affecting property accountability, and the attention of commanding officers was called to the necessity of a more rigid supervision on their part in this matter, as in some instances considerable "surplus" property was found which, responsible officers were ordered to restore to the papers.

Theoretical instruction was pursued for six months of the year, commencing on November 1 and extending to April 30. For officers two recitations each week, each of an hour's duration, were prescribed, and the subjects given for investigation were for the most part those a knowledge of which is necessary to pass successfully the promotion examinations. The courses of study pursued in lyceums and the work accomplished in lyceums and schools are shown in Exhibits 4 and 6 of the report of the assistant adjutant-general, hereto appended.

THE STAFF DEPARTMENTS.

Officers of the personal, department, and general staff serving at these headquarters have performed their duties to my entire satisfaction, and have rendered that support and willing assistance which have prevented friction in all official transactions. The late reduction in number of department staff officers, while it has thrown more labor upon some, especially the assistant adjutant-general and the representative of my personal staff, has not in anywise retarded the prompt execution of business. The pay department has had but two representatives, and although all garrisons are required to be paid monthly, the payments have been promptly made. The supply departments have been economically administered. The chief commissary of subsistence is also the purchasing commissary for the principal articles comprising the established ration, as well as for many of the subsistence stores kept for sale. Purchases in this market permit frequent and small shipments at the least cost of transportation, affording fresh articles for consumption and avoiding loss through damage and waste. The loss of stores in the past year through condemnation because of deterioration is practically nothing, and a comparison of results of

several past years shows a great reduction in prices, singularly so in the item of flour, the cost of which last year was only 45 per cent of what it was in 1883. Beef, too, cost less last year than ever before, and was only 52 per cent of its cost in 1885. The quartermaster's department shows a much greater gradual decrease of expenditure. The average of its total yearly expenditure for fifteen years was \$404,457. In 1881 it was \$600,409, and last year \$206,941—\$40,000 less than for any previous year, although an extra \$10,000 was paid out for the transportation of troops in the emergency service. The strength in numbers of the department military force has remained about the same through all this period, and was greater last year than usual; but scattered garrisons have been united and nearly all are placed on competing lines of railroads, thereby saving the large sums which were formerly paid out for wagon transportation. In this item alone, which was at one time more than \$250,000, there is a reduction of 70 per cent. Attention is respectfully invited to the fact that while the average yearly expenditure for the last fifteen years for the barracks and quarters of the posts of the department was upward of \$48,000, that for last year was but \$16,370, and for the present year will be considerably less still. For the past three years the average was but \$24,832. In the desire to meet the demands of this section of country a considerable share of future appropriations for barracks and quarters might therefore, with good reason, be employed in improving its present permanent posts and in the erection of the new ones which it seems expediency, wisdom, and necessity call for.

I am, sir, very respectfully, your obedient servant,

E. S. OTIS,
Brigadier-General, Commanding.

The ADJUTANT-GENERAL UNITED STATES ARMY,
Washington, D. C.

REPORT OF BRIG. GEN. JAMES W. FORSYTH.

HEADQUARTERS DEPARTMENT OF CALIFORNIA,
San Francisco, August 25, 1895.

SIR: I have the honor to submit the following report of operations in this department during the past year:

By virtue of assignment by the President I assumed command of the department on November 22, 1894.

Company C, Tenth Infantry, was relieved from duty in the department and left San Diego Barracks on October 5, 1894, by rail en route to Fort Sill, Okla.

Company H, First Infantry, changed station from Angel Island to San Diego Barracks, leaving the former on October 2 and arriving at the latter on October 3, 1894.

Company B, First Infantry, on June 24 last changed station from Angel Island to Benicia Barracks, and Company E, First Infantry, on the same day changed station from Benicia Barracks to Angel Island.

Pursuant to instructions of the Lieutenant-General of the Army, dated March 21 last, Troop K, Fourth Cavalry, Capt. Alexander Rodgers commanding, left the Presidio of San Francisco on May 9 for the Yosemite National Park for the purpose of protecting the same from trespass, under instructions received from the Interior Depart-

ment, and arrived at the park on May 21; and Troop I, Fourth Cavalry, left the Presidio of San Francisco on May 9 for the performance of similar duty in the Sequoia and General Grant national parks, and arrived there on the 29th of that month. These troops have since continued in effective performance of the duties specified.

Under the provisions of General Orders, No. 105, Adjutant-General's Office, series of 1888, all the available troops in the department, consisting of the First Infantry (except Company H), Light Battery D, Fifth Artillery, and Troops B and C, Fourth Cavalry, were assembled at Monterey, Cal., on July 16 for the purpose of instruction in camp duties and the minor operations of war under my supervision.

Instruction in this camp was not completed until August 19, which was too late to admit of a satisfactory report of the work done being incorporated herewith. A supplementary report will be made as soon as it can be prepared.

Pursuant to the provisions of General Orders, No. 18, current series, Adjutant-General's Office, I have personally inspected all the troops in the department except Troop I, Fourth Cavalry, at the Sequoia Park, and Company H, First Infantry, at San Diego Barracks. I have not had an opportunity to inspect these two organizations since the publication of General Orders, No. 18, but expect to do so as soon as practicable.

I have not yet become thoroughly acquainted with the personnel of my command, but, so far as I was able to judge in the inspections made, officers and men are efficient in the performance of their duties and are satisfactorily drilled and instructed, supplies are properly distributed, proper care is taken in the purchase and preservation of public property, and proper economy is exercised in all public expenditures.

A statement presenting the methods and indicating results of the instruction had at the lyceums of the several posts is attached hereto, marked Exhibit A.

The condition in respect to discipline has been excellent. For the year ended June 30, 1895, there was a marked decrease in the per cent of desertions over that of each of the two years preceding, as is shown in Exhibit G to Document A.

The report of target practice in small-arms firing, not attached hereto, will be forwarded at the close of the practice season.

The heavy artillery practice of the batteries of the Fifth Artillery at the Presidio of San Francisco, Alcatraz Island, and Fort Mason has been satisfactory.

The annual firing practice of Light Battery D, Fifth Artillery, is now being had at Monterey, and it is my intention that Light Battery F shall make a march of instruction in September or October, when its practice will be had. A fire broke out in the gun shed of the latter battery about 2 o'clock a. m. on June 19. The entire shed was destroyed, together with most of its contents, except the new guns stored there. The gun carriages were rendered entirely unserviceable. It is expected that the battery will be refitted at an early date.

For particulars relating to administration in the several staff departments and recommendations by their chiefs on duty at these headquarters, attention is requested to their reports herewith transmitted, as follows:

Col. O. D. Greene, adjutant-general.

Lieut. Col. William H. Bell, chief commissary of subsistence.

Lieut. Col. J. V. D. Middleton, medical director.

Lieut. Col. Amos S. Kimball, chief quartermaster.

Lieut. Col. Edward Hunter, judge-advocate.

Maj. Alfred E. Bates, chief paymaster.

First Lieut. J. F. Reynolds Landis, aid-de-camp, inspector of small-arms practice, acting engineer officer and in charge of the office of the inspector of artillery.

First Lieut. Frank Greene, chief signal officer.

Very respectfully,

JAMES W. FORSYTH,
Brigadier-General, Commanding.

The ADJUTANT-GENERAL UNITED STATES ARMY,
Washington, D. C.

REPORT OF BRIG. GEN. Z. R. BLISS.

HEADQUARTERS DEPARTMENT OF TEXAS,
San Antonio, August 22, 1895.

SIR: I have the honor to submit the following report of this department:

In obedience to General Orders, No. 27, Adjutant-General's Office, on April 30, 1895, I assumed command of the Department of Texas the 18th of May, relieving Brig. and Bvt. Maj. Gen. Frank Wheaton. There has been nothing in the condition of affairs in this department, or on the boundary requiring special activity of the troops, and their movements have been confined to the usual practice marches, which are reported in detail by the adjutant-general of the department.

Owing to the damaged condition of the barracks at Fort Bliss, Companies A and C, Eighteenth Infantry, were transferred to Fort Sam Houston. Troop G, Seventh Cavalry, was relieved from outpost duty at Eagle Pass and returned to Fort Clark November 16, 1894. Troop B, Fifth Cavalry, was on outpost duty at Eagle Pass until May 15, 1895, when it was relieved by Troop F, which is still there. Troop B returned to its station at Fort Clark May 15. The presence of a detachment of cavalry at camp near Edinburg being considered no longer necessary, it was returned to Fort Ringgold June 13, 1895.

On the 29th of May I started to inspect the troops and posts on the lower Rio Grande, as directed by General Orders, No. 18, current series, Adjutant-General's Office. I found them in good condition, the troops well drilled and instructed, and well and promptly supplied with subsistence and quartermaster stores of excellent quality, and all post commanders expressed themselves as well satisfied with the quantity and quality of supplies received. These remarks are also true in regard to all the posts in the department.

The quarters and troops at Fort McIntosh are in excellent condition. They have a good post garden, which is irrigated from tanks in the post. The only special requirements of this post are an oil house and magazine, which should be supplied as soon as practicable. I proceeded from Fort McIntosh by rail to Hebronville, and thence by ambulance about 80 miles to Fort Ringgold. The barracks and quarters are in fine condition. The plan of the barracks is considered especially good and convenient in every respect. There is some danger that the Rio Grande may cut its way through into a lagoon on the Mexican side of the river and follow an old river bed, leaving Fort Ringgold about 3 miles from water. In case this occurs, the garrison will have to depend

on well water, which, it is believed, can be obtained in abundance and of good quality, but it will require the expenditure of quite a sum of money. I proceeded to Fort Brown from Ringgold by boat. The river was low and the navigation of it difficult, but we made the distance of 300 miles by the river in three days. The distance between the two posts by wagon road is 110 miles, but in the season of rains this road is almost impassable for wagons and in the dry season is very hot and extremely dusty. In an ordinary stage of water the steamboat makes the trip from Brown to Ringgold in about five days. There is but one boat on the river, and, owing to the high charges of the Mexican authorities, it does not land on the Mexican side, except occasionally when there is enough freight at a landing to warrant the payment of \$100 for the privilege.

There is a fine Mexican regiment of cavalry at Reynosa, Mexico, opposite Edinburg, and the commanding officer, Colonel Mainero, has been extremely courteous to our officers passing through his district, and has rendered valuable assistance when required. Between Ringgold and Brown the river has made a cut-off, leaving quite a large tract of land that was formerly on the south side of the river now on the north. This is Mexican territory, and over it the Mexican flag floats. This changing of the course of the river, and consequently of the international boundary, putting perhaps a Mexican ranch on the north side of the river or an American one on the south side, may lead to unpleasant complications in regard to smugglers and other violators of law. The barracks and quarters at Fort Brown are in rather poor condition and need repairs. It is garrisoned by two troops of the Fifth Cavalry. The troops seemed in good condition and satisfied with their station. The hospital is a fine building. One set of barracks is used as a commissary storehouse, two are occupied by troops, and the others vacant. This fort is almost directly opposite Matamoras, which is the terminus of the narrow-gauge railroad that extends from Matamoras to San Miguel, Mexico, about 25 miles below Fort Ringgold. It is an important point, and the garrison should never be below its present strength, but, on the contrary, should be increased.

The Rio Grande has gradually encroached on the city of Brownsville and on the military reservation, until the administration building at Fort Brown is only 4 or 5 feet from the water, and unless some remedy is soon applied the building, a very fine one, will fall into the river; it is expected to do so at the next high water. Several efforts have been made by the United States Government to prevent the encroachment of the river on the American side, but so far without success. The subject has received careful attention from the International Water Boundary Commission, who have carefully inspected the river and banks, and I believe the wing dams and jetties proposed by them, if carefully put in and guarded, will prevent any further damage. There is a large lagoon on the military reservation, a former channel of the river. This lagoon is only about 50 yards from the river, which is gradually approaching it. Should it cut its way into this lagoon it would do great damage to the reservation and perhaps destroy the national cemetery. I was told by the mayor of the city of Brownsville and some of its prominent citizens that they would make no objections to any works the Government saw fit to put in in front of the city or along the bank for 3 miles above the city. The boundary commission has made its report on this part of the river, and I believe the works proposed will solve the question, and if soon erected and kept in repair they will prevent any further encroachments of the river at that point. The

United States has at last acquired title to the land at Fort Brown and owns a large reservation there. Fort Brown controls the navigable portion of the Rio Grande, and is the only point on the coast in that vicinity where supplies can be landed by ships. There is a railroad from Brownsville to Point Isabel, and one on the Mexican side of the river from Matamoras to San Miguel, Mexico. Though the strategic importance of this point has been diminished by the construction of railroads into Mexico at Laredo, Eagle Pass, and El Paso, it is still of very great importance and should be properly garrisoned. The buildings are old and not comfortable. In view of these facts, I would respectfully recommend that a post be built there, on a proper location, for four companies, two of infantry and two of cavalry. The post will be occupied as long as the present boundary exists, and the troops there should be placed in durable and comfortable quarters.

Although there were no complaints by officers or men at the posts on the lower Rio Grande, I believe, in view of the great and long-continued heat of that section of country, that the same troops should not be kept there more than two years without a change of station.

I returned to San Antonio, Tex., July 12.

On July 25 I proceeded by rail to Fort Clark and inspected that post, and found it in excellent condition. On the 26th I proceeded by rail to Fort Bliss, arriving on the 27th, and inspected. The buildings of the post, which were badly cracked and damaged generally by the storm of April last, are undergoing repairs and will soon be ready for occupancy. The garrison should then be increased to four companies. The post is in excellent condition, is on a high and dry plateau, and has an abundant supply of pure water, obtained from wells near the post; one well is 280 feet deep, and one 320. The quarters are very fine. The post is situated at an important point on the boundary, and should be a very desirable station. The storm, with wind at nearly 90 miles an hour, which damaged the buildings, was a very unusual one, and now that the walls have been strengthened it is believed that no further trouble will be experienced.

I arrived at Fort Hancock on the 29th of July and inspected that post. This post is garrisoned by a troop of the Seventh Cavalry, Captain Jackson's. The quarters are very fine, and the garrison and post were in excellent condition. It is in the valley of the Rio Grande and subject to partial overflow from the river.

The water pipes at this post have rusted out in many places and are so covered with rust through the entire length that they prevent the free flow of water, and in case of fire the water supply would be of no practical value. They should be replaced by new ones at an early date.

The large and important post of Sam Houston is in excellent condition. The disposal of sewage is an important question, and will only be satisfactorily solved when the post system of sewerage is connected with the San Antonio system. This matter is now under consideration.

The increased range of the new infantry arms has rendered new or extended rifle ranges necessary at all the posts, and there is great difficulty in finding suitable grounds for them at reasonable prices and convenient to the posts. This matter is under consideration and will be reported upon as soon as anything definite has been decided.

The troops were never so well housed, clothed, or fed as they are now—the bathing facilities, reading rooms, exchange, amusement rooms, and outdoor sports and recreations are luxuries that few of the enlisted men ever enjoyed before enlisting; the duties are not irksome, and they have greater liberty than ever before; still they desert. The number

of desertions in the year 1893-94 was 84; in last year, 1894-95, the number was 120, an increase of nearly 50 per cent, while the number of apprehensions and trials were much less last year than year before.

The fault is not in the service, but must be looked for on the outside. Many young soldiers do not like the restraint of military life, and in many cases long for home and its surroundings. These things bear harder on the American-born country boy than on any other class, and are almost the only causes that lead that class to desert. Not much more in the way of food, clothing, and liberty can be given them to make them contented, and desertion will only stop when the certainty of apprehension and the certainty of severe and adequate punishment will cause them to prefer to accept the inconveniences and annoyances of the life of a soldier rather than suffer the disgrace and punishment which should be sure to follow desertion.

The following officers have been on duty at these headquarters, and attention is respectfully invited to their very full and valuable reports:

Maj. Arthur MacArthur, jr., assistant adjutant-general.

Capt. Francis J. Kernan, acting judge-advocate.

Lieut. Col. Gilbert C. Smith, chief quartermaster.

Maj. John F. Weston, chief commissary of subsistence.

Col. Francis L. Town, medical director.

Col. Charles M. Terrell, chief paymaster.

Second Lieut. William J. Glasgow, First Cavalry, aid-de-camp, acting engineer officer.

Maj. Clarence E. Dutton, chief ordnance officer.

Capt. Richard E. Thompson, chief signal officer.

First Lieut. Charles Dodge, jr., Twenty-fourth Infantry, aid-de-camp, inspector of small-arms practice.

The report of the inspector of small-arms practice will be rendered when the practice is completed.

Very respectfully,

Z. R. BLISS,
Brigadier-General, Commanding.

The ADJUTANT-GENERAL UNITED STATES ARMY,
Washington, D. C.

REPORT OF BRIG. GEN. J. J. COPPINGER.

HEADQUARTERS DEPARTMENT OF THE PLATTE,
Omaha, Nebr., August 28, 1895.

SIR: I have the honor to submit this my first annual report of the Department of the Platte, the command of which Brig. Gen. John R. Brooke transferred to me by direction of the President on May 17, 1895. It is proper to premise that a recital of actual military operations and movements of troops extends to the present date in this report. The 31st of July closes the account of other departmental affairs. The accompanying reports of the officers of the department staff, which under the recent change in the inspection system of the Army no longer includes an inspector-general, terminate also with the year ended on that date.

Pursuant to War Department orders, all of the Sixth Cavalry in this department, and all but 3 companies of the Seventeenth Infantry, embracing, exclusive of skeleton organizations, 7 troops and 5 companies, were transferred from the Department of the Platte to other departments during September, 1894. In accordance with instructions

from the same source, the post at Fort McKinney, Wyo., established in 1877, was abandoned on November 9, 1894, the bulk of the garrison going to Fort D. A. Russell; and the company of infantry on duty at Camp Pilot Butte, Wyo., maintained as a regular military station since the massacre of Chinese miners in September, 1885, was returned on September 30, 1894, to its proper command at Fort Logan, Colo., having been replaced by a detachment from Fort D. A. Russell, of which the camp is now a subpost.

This loss of troops is offset by gains as follows: Troop K, Ninth Cavalry, joined the headquarters of the regiment at Fort Robinson, Nebr., on October 6, 1894. During the same month all except 3 companies of the Twelfth Infantry came into the department, taking station at Fort Niobrara, Nebr. By the annexation, on the 23d ultimo, of an additional portion of South Dakota, including the post of Fort Meade to the department, its strength was further increased by the headquarters and 8 troops of the Eighth Cavalry.

The only disturbance in the department since the rendition of the last annual report which has necessitated the use of troops for its suppression occurred last month in the part of northwestern Wyoming known as the Jackson's Hole country. Although a detailed account of the nature of the trouble and of the movements and services of troops in connection therewith will soon be submitted, a résumé of the principal facts may not be out of place here.

Upon the representations of the governor of Wyoming and of the United States Indian agent at Fort Hall, Idaho, that a conflict was imminent in that country between the settlers there and a large body of Indians, of whom the bulk was reported to be Bannocks from the Fort Hall Reservation, an expedition consisting of a squadron of cavalry and a battalion of infantry, drawn from the posts of Forts Robinson and D. A. Russell, respectively, was sent by rail to Market Lake, Idaho, and thence marched to the scene of the difficulty for the purpose of preventing the threatened collision. The intervention of the troops had been expressly authorized by the War Department. The department commander accompanied the expedition.

When, on July 31, the troops arrived at Jackson's Hole the excitement promptly subsided. Upon their approach the most of the Indian hunting parties returned quietly and by the most direct route to the Fort Hall Reservation, not, however, without unwittingly causing some uneasiness to the settlers along the line of march. A number of peaceable hunters from the Lemhi Agency were started back to their reservation on August 11, by a scouting party under Lieutenant-Colonel Randall, Eighth Infantry. The troops are still in the field.

It appears that the refusal of the Indians to desist from hunting in Jackson's Hole and the adjacent country, the right to which is given them by a treaty provision paramount to any State law, on the one hand, and that on the other hand, the persistent action of the State and local authorities in arresting and punishing Indians for violating the game laws of Wyoming, aggravated by what I believe to have been the wholly unwarranted shooting, on the 12th of July, of some Indians who, with other male Indian prisoners, were trying to escape from their captors (a constable and a body of deputies) produced a feeling of mutual resentment in the Indians and whites and of general alarm, which gave rise to reports of bloody conflicts extensively published in the press. None of these, except the one of the shooting just mentioned, were afterwards verified.

The distribution of troops of the department is, on the whole, thought to be a judicious one. Of the five principal posts which it embraces, two are located near the Union Pacific Railway, crossing the country from east to west, and at points where the garrisons can also be quickly transported either to the north or south. The situation of the other posts is equally favorable, besides being within easy reach of the two reservations where the uprising of the Sioux in 1890-91 centered, they abut upon railways which connect two of the transcontinental systems. The troops at these posts may thus be said to be well placed for any service within or without the departmental lines that may be required of them. In order, however, that cavalry may be nearer the scene of the late difficulty in Jackson's Hole, as well as to increase the feeling of security in the settlements bordering the Wind River Reservation, some of the Indians living on which are said to manifest at times a restless spirit, I have detained two of the troops which formed part of the expedition to the Hole, at Fort Washakie, Wyo., a post situated about 147 miles from the Union Pacific Railway, and since last fall garrisoned by but one company of infantry. At least these two troops should, I think, be added to this garrison.

Since my accession to the command of the department I have had the opportunity not only of inspecting each of the several garrisons (though as regards Fort Meade the inspection was not an official one) but of observing for some weeks the marches and bivouacs of the squadron Ninth Cavalry under Major Chaffee. As the result of these personal observations, and from the reports of the War Department inspector so far received, I feel warranted in saying that as a rule the troops are well instructed, and otherwise in good condition for active service. To minor defects that were discovered the necessary remedies have been at once applied.

The regular drills have been pursued systematically and, so far as the size of each particular command would warrant, progressively up to the evolutions of the regiment. Though the battle exercises, which form a prominent feature of the present drill book, may be faulty in some respects, or fall short of a practicable representation of actual combats, they have without question served to stimulate interest in drill, and are in this particular superior to a system which was in the main limited to close-order movements and to ceremonials. It has been hitherto the custom at most posts to distribute several drills of not as a rule more than one hour's duration, and other military exercises, over different parts of the day, involving frequent and vexatious changes in dress and occupation, and withal tending to perfunctory performance. Experience has shown that better results are attainable by allotting the entire or major portion of the forenoon to purely military work, including gymnastics and field training, leaving the afternoon free for administrative duties and giving to those off duty a chance to engage in hunting, bicycling, and other sports calculated to make officers and soldiers more fit for their arduous vocation. Steps have therefore been taken to bring about such a division of labor in this department.

But exercises within the post limits, however comprehensive and well sustained, need to be supplemented by marching under conditions rendered necessary by war, for in war the march is the basis of all operations, and their success depends upon its prompt and complete performance. Accordingly, preparations had begun, prior to the commencement of the Jackson's Hole trouble, for practicing the troops in this all-important work, the extent of which was to be regulated by the size, composition, and location of the several garrisons. The projected

marches have been put off, in view of the possible necessity for additional troops in connection with the disturbance referred to, but there remains ample time for their execution, and all organizations other than those now in the field and at Fort Russell will be required to make a march of from 80 to 100 miles as if in the presence of an enemy. The practice will include concentration marches, the essential feature of which is to be strict conformance to the prescribed time of departure from and arrival at designated points. As serving to prepare them for the regular practice marches, it is my purpose to send the troops out, weather permitting, to a distance of 5 or 6 miles from their posts as often as once a week throughout six months of the year.

The limited target practice prescribed for the current season has been completed at Forts Niobrara, Russell, and Washakie, the results showing a slight falling off in the figure of merit, which may be ascribed to lack of familiarity with the new magazine gun. A battalion of the Second Infantry at Fort Omaha began its practice on the target range of the as yet unoccupied post of Fort Crook in May last, but was obliged to stop it, as a large percentage of the bullets was found to ricochet from the hill back of the butts, endangering life and property. It is thought that when the post shall be garrisoned this difficulty may be overcome for the short ranges by the erection of a parapet in rear of the butts and by terracing the hill. Meanwhile ground about 80 miles distant, on the Omaha and Winnebago Indian Reservation, which is suitable for the practice, has been kindly placed at the disposal of the regiment by the acting United States Indian agent in charge (Captain Beck, Tenth Cavalry), and arrangements for utilizing it for this purpose have been perfected. The target ranges at the other posts are reported as in good condition. At the cavalry posts of Forts Robinson and Meade the revolver practice has been finished, but the practice with the carbine is necessarily deferred until the troops shall be supplied with the new magazine arm. The report of the inspector of small-arms practice will be submitted upon the completion of the practice.

Instruction in signaling was carried on at all posts until the extent of proficiency required by the regulations was fully reached. At Fort Meade it has been even more comprehensive, all officers and men having, under separate instructors, become qualified to send and receive messages by flag and heliograph.

The requisite attention, as prescribed by regulations, has been given to the practical instruction of the members of the hospital corps and of the company bearers. The medical director's report shows that the general health of the command was excellent.

A statement of the work accomplished in the various post lyceums, which I regard on the whole as satisfactory, forms an exhibit of the report of the adjutant-general of the department. I am inclined to think, however, that the number of subjects embraced in the course of instruction at some of the posts was too large for a thorough study of each; that subjects such as the drill regulations, with which officers are kept familiar by daily practice, though included in the scope of the examination for promotion, might well be omitted, and that officers who have shown proficiency in a subject of limited range should not be made to go over it year after year, but ought instead to be required to give more attention to branches, such as minor operations of war and military history, which present a practically limitless field for profitable and original investigation.

Noncommissioned officers have received theoretical instruction at most if not all of the posts; but I am without sufficient information to

report upon the methods of and the advantages derived from these non-commissioned officers' schools, the importance of which can hardly be overestimated.

As regards the post schools I concur in the recommendation of the assistant adjutant-general at these headquarters, which is to the effect that the time has come for limiting the subjects taught to such as are related to the military profession and for making proficiency in them an element to be considered in the making of promotions.

My recent inspections have strengthened my belief that, as regards sobriety, intelligence, and deportment at least, the enlisted personnel of our Army has greatly improved within the past ten years. It may be that the difficulty of obtaining employment resulting from the industrial depression from which the country is just beginning to recover has brought into the ranks a class of men superior to that generally found there. But the principal causes of the improvement, it is believed, are the better provision that is now made for the men's physical comfort, the higher standard that has been maintained in recruiting, together with the institution of the special regimental recruiting service, and lastly, the adjustment of penalties not only to the offenses but upon the basis of the previous records of the offenders, coupled with the rule authorizing their expulsion from the Army if the records exhibit certain convictions within a stated period.

A further elevation of the rank and file is, however, both feasible and desirable. It can, I think, be effected by forming the artisans required for the administration of posts into a separate corps, thus obviating the necessity for details for special duty from the combatant organizations, by dividing the privates into two classes, and by such a rearrangement of the rates of pay as will, without greatly swelling the total of the appropriation, give higher compensation to those of the first class as well as to the noncommissioned officers. Of all measures calculated to promote the efficiency of the service I deem the increase of the non-commissioned officers' pay the most important.

The judge-advocate's report shows that this year's percentage of summary court trials is slightly in excess of that for the previous year. This increase arises probably out of a growing tendency to refer every slight breach of discipline to the summary court for adjudication. I share the belief generally entertained that it would be well to empower company commanders by law to punish such lapses offhand, especially when, as is generally the case, they are admitted. Not only would the promptness of the punishment, the limit of which ought of course to be authoritatively fixed, add to its efficacy, but much time and trouble would thus be saved. I am also of opinion that, now that the troops are for the most part stationed at posts commanded by officers of rank and experience, our court-martial system might be simplified and discipline promoted by enlarging the jurisdiction of garrison courts and giving them power to sentence men to dishonorable discharge.

I invite attention to the report of the chief ordnance officer of the department, and concur in his recommendation that better provision be made at posts than hitherto for the storage and repair of ordnance stores. His views upon the important subjects of the "intrenching tool" and "battle ammunition supply" are especially worthy of careful consideration. I also believe officers with war service will agree with him, that the knapsack in any form is not acceptable to the American infantryman and that the most that can on campaigns be expected of the latter in the way of a substitute is to carry a roll consisting of shelter tent, blanket, and change of underclothing.

More or less dissatisfaction is expressed by cavalry officers in reference to the mounts that are being supplied their organizations under the present system. I refrain from commenting upon such expressions further than to record my conviction that complaints on this score will never cease until remount horses shall be procured, as are recruits, by the officers for whose commands they are intended. The success of the special regimental recruiting service has demonstrated the soundness of this principle.

With regard to barracks and other post buildings, I find that those at Fort Niobrara are well suited to the needs of the garrison; that at Fort Washakie, Robinson, and Russell some alterations, additions, and repairs are required, for which estimates have been or soon will be submitted, and that the buildings at Fort Omaha, though all but a few of them are greatly dilapidated, can be made to last until Fort Crook, which is admirably constructed save in regard to messing arrangements, shall be completed. The condition of the buildings at Fort Meade is such as to require early consideration. Most of the wooden structures, of which the post largely consists, are in an advanced state of decay. They are, moreover, unsuitable in shape and arrangement for the requirements of the garrison as well as ill adapted to the climate of the Black Hills region. If the post is to be maintained for an indefinite period, as I believe it must be, these buildings ought to be gradually replaced by others of brick or stone with fireproof roofs and modern improvements.

During the period covered by this report the subsistence, clothing, forage, and other supplies furnished the troops have been of good quality. The public wagons and teams, which, in my judgment, have been reduced in number at some posts below requirements, are reported as in satisfactory condition, except at Fort Russell, where some of the wagons, though still fit for post purposes, are said to be no longer suitable for field service.

Exchanges have been operated successfully (though, owing to the substitution of civilian for soldier attendants, with less profit to the messes) at all posts. Coming fresh from a regimental command, I may be permitted to express my gratification that the exchange is now firmly rooted in our service and that the recently promulgated regulations, while preserving all the essential principles of the rules under which the institution has flourished, have extended its scope. No one acquainted with the corrupting influences, direct and indirect, of the system which it superseded can realize the extent of the reform it has accomplished—a reform promoting sobriety, discipline, and good conduct. I deem it, however, of great importance to its continued usefulness that, especially at the permanent posts, good buildings, corresponding to the structures designed for other garrison purposes, should be erected by the Government for the accommodation of the exchange to replace the unsightly shanties now used for the purpose.

Very respectfully, your obedient servant,

JOHN J. COPPINGER,
Brigadier-General, Commanding.

The ADJUTANT-GENERAL UNITED STATES ARMY,
Washington, D. C.

REPORT OF BRIG. GEN. JAMES W. FORSYTH.

SAN FRANCISCO, CAL., *December 20, 1894.*

SIR: Pursuant to the requirements of General Orders, No. 17, Adjutant General's Office, series of 1892, I have the honor to make the following report of the progress and wants of the United States Cavalry and Light Artillery School at Fort Riley, Kans., for the school year of 1894:

Having been appointed brigadier-general, United States Army, on November 9, and subsequently assigned to command of the Department of California, I left Fort Riley, Kans., on November 19, to proceed to my new station.

Of the school work planned for the year, all had been completed at that time except half of the combined maneuvers. These were finished on December 1, under the able direction and personal supervision of Lieut. Col. L. H. Carpenter, Seventh Cavalry, of whose valuable services in systematizing and conducting cavalry instruction in the school for the past two years I can not speak too highly.

My successor in command, Col. E. V. Sumner, Seventh Cavalry, arrived toward the end of November and assumed control upon the completion of school work for the year.

THE COURSE OF INSTRUCTION

pursued was practically the same as that fully outlined in my report of last year, minor variations therefrom having been necessitated by the absence of one squadron on detached service.

THE PROGRESS OF INSTRUCTION

in both subschools is set forth in the reports of the directors thereof, hereto attached.

The schemes of instruction and detailed orders for the government of all cavalry instruction and of combined exercises were printed in extenso in last year's report. The work done this year was so similar in all respects to that of last season, it is not considered necessary or desirable to republish those schemes or orders, but as the character of the benefit derivable from field exercises is quite clearly indicated by the comments upon combined maneuvers, published to the school this year, they are here reprinted in Appendix C.

The plan it was intended to pursue with reference to these comments was to print and distribute them to the command. Once a week all officers were to be assembled, and after the reading of orders, reports, and comments upon each exercise discussion of the same was to be had. On the night of meeting upon the first week's exercises I was notified of my promotion, and shortly afterwards ordered to join my new station without delay. The rush of business incident to closing up my connection with the post and school and to preparations for my departure prevented my further prosecution of this plan.

I can not close this report, however, without inviting attention to what I believe to be a most important auxiliary to success in deriving a maximum benefit from field exercises, namely, their thorough and proper discussion after execution.

REMARKS AND RECOMMENDATIONS.

Except as a record of experience for the information of successors, the making of recommendations in printed reports seems of little utility. Pursuant to the provisions of the order establishing the school I last year thus set forth its wants, but, so far as I am informed, no results were consequent thereupon, nor have I yet learned whether the recommendations made and the system of instruction outlined therein met with the approval of my superiors or the reverse.

Recommendations frequently and repeatedly made have seemed to exercise no influence, and serious impediments to the success of the school have continued to exist and to repeat themselves. The most serious of all is the continuous lack of sufficient officers for efficient instruction and the apparently unnecessary detached service of officers and organizations. On several occasions the number of officers available for duty with troops was so small that officers' patrols were necessarily sent out under noncommissioned officers.

Twice within twelve months the same squadron was sent on detached service in the midst of the school season, thereby greatly decreasing any benefit which might possibly have been derived from a complete and systematic course of instruction.

This circumstance would not be mentioned here were it not for the fact that in both instances there was, at a neighboring post, a squadron of cavalry which was apparently available for this detached duty and not engaged in any special course of instruction.

Since the school existed troops composing it have never joined at the season of the year which has been recommended by the commandant and approved by the War Department, but have been ordered there at all seasons irrespective of the effect upon their instruction. The first squadron to join after the school was established, after having been sent on detached service twice within one year, was relieved long before its legitimate tour of duty had expired.

In other words, the interests of the school appear to be assigned a position subordinate to most other considerations incident to the service.

Such conditions are not calculated to encourage those charged with the welfare of a young institution struggling for recognition commensurate with its importance to the service, and it is useless to expect any satisfactory amount of success as long as this policy is maintained in the treatment of its affairs.

It will ordinarily be impossible to find four troops of one regiment so situated as to make it both desirable and convenient to order them to the school, and it will doubtless never be convenient for any regiment to furnish twelve officers for duty with four of its troops.

The difficulty of getting troops changed with regularity and at the proper season and of keeping a sufficient number of officers on duty with troops will therefore probably continue as long as the present system of constituting the cavalry personnel is maintained.

It would be comparatively easy to annually find several troops (no more than one to be taken from any regiment) that could be conveniently ordered to the school, and any regiment can generally, without embarrassment, furnish three or six officers for duty with one or two of its troops.

The above-mentioned difficulties would therefore be encountered much less frequently, if ever at all, were my recommendation of last year adopted, namely, that but one troop be taken from each regiment until twelve instead of eight troops are stationed at the school, when

two of the regiments should furnish two each. These troops could also then be raised to a war strength, another very desirable consideration, which has been previously represented, without a serious reduction in the strength of other troops, and field officers could be detailed from the entire list, thus securing those most suitable.

I will also here renew a recommendation that I have several times made in one form or another, that officers assigned to the cavalry branch of the service be permitted to perform their first year of service at this school. It seems especially appropriate that additional second lieutenants be given their first service there, as it can not be known to what regiments they will finally be assigned, and Fort Riley is as central a point from which to order them to permanent stations as any that could be found. They could be attached for duty to regiments having troops in the school.

If all officers assigned to the cavalry could not be ordered there for one year's duty, at least a sufficient number should be sent to enable the commandant to supply each troop with three officers for duty at all times. They will derive far greater benefit than from service at an ordinary post not possessing such facilities for instruction as exist in a large command. The starting of a young officer with proper ideas of his duty is of great importance.

As the matter of expense has seemed to be a first consideration in the changing of troops on duty at the school, I would respectfully submit a further modification of previous recommendations, with a view to decreasing said expense. Instead of changing troops every three years, let each tour of duty be the regulation four years. It would then be necessary to change but two troops each year as long as only eight are in the school and three per year when it consists of twelve. In order to give as many officers the benefit of the course as possible, however, it is thought the subaltern officers should be changed every two years if this recommendation be adopted. Two years is sufficient for an officer to obtain whatever benefit is derivable from the course of instruction.

A large clock with sweep-second hand for timing horses at the regulation gaits, and a large mirror for making plain to unskillful riders faulty positions unconsciously assumed, would be useful adjuncts to riding-hall instruction:

Shortly before leaving Fort Riley I was notified that, pursuant to a recommendation I had made, the chief farrier and his school of farriery and blacksmithing, formerly located at Jefferson Barracks, had been ordered transferred to the United States Cavalry and Light Artillery School. This fact causes it to be all the more desirable and necessary that the veterinary dispensary recommended in former reports should be provided, and a blacksmith shop constructed in connection therewith where instruction in horseshoeing could be properly and systematically given. Provision should also be made for the chief farrier.

From an experience of several years at Fort Riley I have concluded that no dependence can be placed upon the weather there, as to suitability for outdoor work, after December 1. For this reason I consider a change in the division of time for cavalry instruction desirable, and therefore submit the following modification of previous recommendations: Instead of assigning the period between September 15 and October 1 to regimental and brigade drills and that between October 1 and December 20 to field exercises and combined maneuvers, the latter should be begun on September 15, three days of every week being

devoted thereto, the other two alternate days (Saturdays and Sundays are excepted) being utilized for regimental and brigade drills and ceremonies, in the order named.

The rendering of reports upon field exercises and maneuvers requires time for their proper and careful preparation and is a most important feature of the instruction. There should, therefore, never be had, in my opinion, more than three field exercises or combined maneuvers per week. It is believed that from twelve to fifteen of each of these and six regimental and three brigade drills are all-sufficient for efficient instruction. The period from September 15 to December 1 would afford from fifty to sixty working days, ample for the requirements of the above instruction and allowing some for the possibility of loss through bad weather or other emergencies. Ceremonies could continue with good weather, or such days as were suitable to December 20 could be utilized for matters which had been crowded out during the season by accidents and exigencies of the service. As a rule, however, I believe it for the best interests of the service that all school work should be completed by December 1.

The recommendations made in the reports of the directors of the two subschools are concurred in. Attention is respectfully invited to the contents of these reports contained in Appendixes A and B.

The changes which have occurred in the staff of the post commander since the submission of my last report are shown in the following memorandum:

Loss.—(1) Capt. S. R. Jones, assistant quartermaster, left post October 9, 1894; (2) Chaplain D. R. Lowell, post chaplain, left post June 9, 1894; (3) First Lieut. P. F. Straub, assistant surgeon, left post March 20, 1894; (4) First Lieut. J. M. Kennedy, assistant surgeon, left post April 25, 1894; (5) First Lieut. J. E. Maxfield, Signal Corps, left post November 3, 1894.

Gain.—(1) Capt. W. H. Miller, assistant quartermaster, joined post October 9, 1894; (2) Chaplain T. W. Barry, post chaplain, joined post October 27, 1894; (3) Capt. J. D. Poindexter, assistant surgeon, joined post October 24, 1894; (4) First Lieut. S. Reber, Signal Corps, joined post October 10, 1894; (5) First Lieut. W. W. Quinton, assistant surgeon, joined post March 14, 1894; (6) First Lieut. T. U. Raymond, assistant surgeon, joined post December 8, 1894.

As this is the last report I shall make concerning an institution with which I have been connected since its inception, and in which I have always been deeply interested, I take this occasion to make grateful acknowledgment that my service as its commandant will ever remain one of my pleasantest memories because of the loyal support and valuable assistance which was always cheerfully rendered by my subordinates in the management of its affairs.

Very respectfully, your obedient servant,

JAMES W. FORSYTH,
Brigadier-General, United States Army.

The ADJUTANT-GENERAL UNITED STATES ARMY,
Washington, D. C.

REPORT OF THE COMMANDANT OF THE UNITED STATES ARTILLERY SCHOOL.

UNITED STATES ARTILLERY SCHOOL,
Fort Monroe, Va., August 31, 1895.

SIR: I have the honor to submit the following report of the United States Artillery School for the year ended August 31, 1895:

The following officers constitute the present student class: First Lieuts. Harvey C. Carbaugh, Fifth Artillery; Elmer W. Hubbard, Third Artillery; Charles F. Parker, Second Artillery; T. Bentley Mott, First Artillery; George O. Squier, Third Artillery, and Alfred W. Hunter, Fourth Artillery. Second Lieuts. John T. Martin, Fourth Artillery; Sidney S. Jordan, Fifth Artillery; Delamere Skerrett, Fifth Artillery; Edward F. McGlachlin, jr., Fifth Artillery; Maurice G. Krayenbuhl, Second Artillery; William C. Davis, Fifth Artillery; William S. McNair, Third Artillery; Andrew Hero, jr., Fourth Artillery; George Blakely, Second Artillery; Jay E. Hoffer, Third Artillery; Arthur W. Chase, Second Artillery; Frank W. Coe, First Artillery; Samuel A. Kephart, Fourth Artillery; Sawyer Blanchard, First Artillery, and William Chamberlaine, First Artillery. First Lieut. Thomas Ridgway, Fifth Artillery, a member of the previous class, but who was prevented by sickness from completing his studies, has been assigned to the present class for the second year's course.

Lieutenant Blanchard was reported sick from March 20 to May 15, 1895, since which date he has been on sick leave of absence. Lieutenant Martin was relieved from duty at the Artillery School June 28, 1895, by Special Orders, No. 48 current series, Adjutant-General's Office, and ordered to report for duty at the Ohio State University, Columbus, Ohio.

In addition to the foregoing, Lieuts. Charles D. Parkhurst, Fourth Artillery; Warren P. Newcomb, Fifth Artillery, and William L. Kenly, Fourth Artillery, graduates of previous classes, were ordered to the Artillery School and authorized to pursue a special course of studies for one year.

The period covered by this report embraces courses of instruction for commissioned officers in engineering, artillery, exterior and interior ballistics, and practical artillery exercises; also practical instruction in photography and telegraphy.

ENGINEERING.

Two and a half months are given to the study of military engineering. The course includes surveying, topographical sketching and map reading, field fortifications, reconnoissance, military communication, and seacoast defense. As students already possess a theoretical knowledge of these subjects, instruction is largely practical—field work with the different instruments used in making surveys, reconnoissance, etc., lectures by the instructor, Capt. J. M. K. Davis, First Artillery, and informal discussions on the subject of seacoast defense.

ARTILLERY.

This course, to which three months are given, includes the metallurgy of gun metal, gun and gun-carriage construction, elastic strength of guns, ordnance and gunnery, and armor and its attack by artillery.

Prior to the commencement of the course the instructor, Capt. J. P. Story, visited the proving grounds at Sandy Hook, N. J., the gun factory at Watervliet, N. Y., Watertown Arsenal, Barton, Mass., the Bethlehem Iron Works, Pennsylvania, and other important establishments, making a careful study of the work done and in progress and of the means and methods employed, thus enabling him to present to his class the latest information upon artillery questions. During this course the fleet of Admiral R. C. Meade, United States Navy, visited Hampton Roads, and through the courtesy of the Admiral and of Captain Evans, commander of the flagship *New York*, the officers of the school were afforded the opportunity to visit that ship for the purpose of examining it and its armament. The class was divided into sections, and an officer of the ship assigned to conduct each section and make necessary explanations. The mechanism of the Hotchkiss, the Driggs-Schroeder, and the Dashiell rapid-fire guns were explained and their practical working exhibited; the main armament in turrets and the manner of training the turrets and guns, and of elevating and aiming the latter were explained; also the electric equipment of the ship and the manner of discharging torpedoes. The pains taken by the naval officers in charge to explain fully the offensive and defensive arrangements of this model cruiser and the practical working of all its parts made the visit one of special interest and profit.

BALLISTICS.

Three months are given to the study of exterior and interior ballistics, about three-fifths of the time to the former and two-fifths to the latter. The instructor, Captain Ingalls, is the author of the text-books used in this course. The method pursued is a combination of blackboard demonstrations, questions, lectures, and the solution of practical numerical examples. By this method the instructor says:

Not only are the principles upon which the science of ballistics is based thoroughly mastered, but what is generally more difficult of attainment, the application of the formulas and tables to the important and complicated problems which are continually arising in gunnery are made more easy.

PHOTOGRAPHY AND TELEGRAPHY.

Instruction in photography consisted of lectures describing the apparatus and the manner of using it and the application of photography to military purposes; also practical work in the laboratory in making negatives and prints from them in silver, bromide, and blue-print papers enlarged or reduced.

Instruction in practical telegraphy was given by Lieut. Samuel A. Kephart, Fourth Artillery, a member of the class, who is a practical telegrapher. The progress of the class under his efficient management was good, and, with one exception, all attained the prescribed standard.

The other departments of the school for commissioned officers, though not engaged in the regular instructions of the class until the second year of the course, have afforded those taking special courses the means of pursuing their studies with great advantage and the members of the class the opportunity to employ their spare time in preparatory or experimental work. These advantages were improved to a very considerable extent. Lieutenant Newcomb pursued a special course of study in electricity with reference to its application to military purposes. During the year, also, Professor Crehore, of Dartmouth College, and Lieutenant Squier, of the Artillery School, conducted jointly a series

of interesting experiments with a view to developing a new instrument for measuring the velocity of projectiles by the use of polarized light. The experiments were very successful and promise the best results. In addition to the foregoing, the duty devolves upon this department of keeping in order the firing, chronograph, telegraph, and telephone lines of the school. In the chemical and explosive laboratory Lieutenants Parkhurst and Kenly pursued special courses, and many of the student class devoted much of their spare time to experimental work under the direction of the instructor. To the department of steam and mechanism belongs the work of construction and repair, of providing steam for heating and power for running the dynamos and other machinery of the school. The shops pertaining to this department are well equipped, and much of the apparatus required by the other departments is made there.

ENLISTED MEN'S DIVISION.

Unabated interest is maintained in the enlisted men's branch of the school, which, under the management of Lieut. E. A. Millar, Third Artillery, continues to be an important factor in its scheme of instruction. Through its means noncommissioned officers are given an education and training which enable them to understand thoroughly and perform efficiently the manifold duties devolving upon them. The school commenced October 9, 1894, with a membership of 47. By discharge, furlough, etc., this number was reduced to 43 at the close of the session in May. Of these, 13 completed the two-years course and were given diplomas; 18 completed the first year's course, and others were in various stages of progress.

ARTILLERY PRACTICAL EXERCISES.

For the purpose of drills and practical instruction the eight batteries of the school are organized into two battalions of four batteries each, under the command of field officers. Practical artillery instruction for the year embraced nearly the entire schedule of exercises prescribed in the programme of the school, together with the service of the 8-inch B. L. R. gun, the 12-inch B. L. R. mortar, and the 3.6-inch field mortar recently received. Provisional manuals for the service of these pieces were prepared by Lieut. W. P. Duvall, Fifth Artillery.

Target practice was conducted with a special view to the instruction of student officers, but care was taken to make it as instructive as possible to the batteries. It is believed that both officers and men received all the advantages that could be obtained from the ammunition expended, which, in the case of the 8-inch B. L. R. gun and the 12-inch B. L. R. mortar, was very limited. Practice with these pieces was exceedingly interesting, and while the practical use of them has developed some minor defects in the carriages, which have been noted elsewhere, the ease and facility with which they were operated and the accurate and uniform results obtained inspired both officers and men with the greatest confidence in their efficiency. The tables used were the ones computed by Captain Ingalls, the targets those in ordinary use, and the ranges for the mortar 5,284 and 9,004 yards; that for the gun was 6,182 yards. On account of the ricochet a shorter range for this gun can not be safely used and a somewhat longer one would be safer. The telescopic sight devised by Lieut. Charles D. Parkhurst, Fourth Artillery, was employed in laying the gun, with entirely satisfactory results. At the above range the target was invisible through the peep sight,

and only dimly seen through the open sight of the gun, but was very distinctly seen through the telescopic sight.

For the purpose of testing the merits of the Essick-Page printing telegraph as a means of transmitting information in seacoast artillery firing, the company offered the school the free use of the instruments during the target season. By this system the message is printed on a sheet of paper 5 inches wide. It is operated like a typewriter, and a special advantage of the system is that the operator has before him an exact copy of what is sent and being received at the several stations along the line. The installation and management of the system was assigned to Lieut. H. C. Carbaugh, Fifth Artillery. The work was attended by the usual embarrassments in introducing new methods with untrained hands, but they were overcome and the system was found to work very well. Easy and reliable means of communication with the different batteries of a post and between the various parts of works are of the first importance. With some modification of the system which has been suggested, and more experience in using it, it is believed that it will be found more satisfactory than any method that has yet been tried.

Since my last report the pintles and platforms of the 15-inch S. B. gun battery have all been put in good order and new carriages of the latest model have been supplied to replace the old ones. Two of the four wooden platforms on which the 8 inch C. R. guns are mounted have been replaced by concrete platforms, and the gun carriages repaired and improved as suggested in a former report. These batteries are now in excellent condition, and it is earnestly hoped that the two remaining wooden platforms may be replaced by concrete before another year.

The index circle of the new mortar platform has been put down with the zero to the south. With the vernier at the rear end of the carriage as now placed, and where it must necessarily be placed in the case of gun carriages, 180° must be added in laying the piece for all azimuths under 180° , and 180° subtracted for all azimuths over that number. This complication would be avoided by placing the zero at the north instead of the south point of the circle.

The continual shipment of heavy ordnance to and from the post has forcibly demonstrated the lack of suitable means for handling such heavy weights. Cranes capable of lifting from 20 to 30 tons should be erected at the wharf and railroad station for loading and unloading this material, and adequate means provided for transporting it to and from the batteries. With the means now available both the labor and time necessary to accomplish the work is greatly increased.

LIBRARY.

The usual additions of current military works have been made to the library during the year. It now contains about 11,000 volumes, and I can not urge too strongly the importance of providing a larger and safer building for their accommodation.

BINDERY AND PRINTING PRESS.

The bindery and printing press are under the management of the adjutant, Lieut. Edward Davis, Third Artillery, and contribute much needed assistance to all departments. Besides many unbound volumes purchased for the use of the school, all of the valuable exchanges of the Artillery Journal are here bound and added to the library.

DISCIPLINE.

The standard of discipline maintained at the school is, I think, eminently satisfactory. With the exception of desertions, which have been rare, infractions of discipline have all been of a minor character. The enlisted strength of the command has been maintained constantly at or near the maximum by enlistments made at the post. While we have no regular gymnasium, athletic sports are encouraged, and systematic attention given to the physical training and development of the men.

GENERAL REMARKS.

The present class is the first in many years in which all the members were able, without distinction, to take the entire course. All possess excellent abilities, and thus far their attainments, as shown by their work in the several departments, are about the same, the difference between the head and foot men being very small. Under these circumstances the regulation of the school which requires the staff to note in each department, as distinguished, such as have shown marked proficiency, in my opinion, accomplishes substantially the object or intent of the regulation, and the further provision that their names be arranged in the order of merit would seem unnecessary. Such grading is distasteful to the students themselves and many objections are urged against it.

The equipment of the different departments of the school is improved yearly, and now offers substantial advantages both to the regular class and to those who may be permitted to pursue special courses. The policy of allowing officers to pursue such special studies not only extends the sphere of usefulness of the school, but, under proper regulations, must result in much benefit to the service.

Very respectfully, your obedient servant,

ROYAL T. FRANK,
Colonel First Artillery, Commandant.

The ADJUTANT-GENERAL OF THE ARMY,
Washington, D. C.

REPORT OF THE COMMANDANT OF THE UNITED STATES INFANTRY AND CAVALRY SCHOOL.

UNITED STATES INFANTRY AND CAVALRY SCHOOL,
Fort Leavenworth, Kans., August 1, 1895.

SIR: I have the honor to submit the following report of the operations of the United States Infantry and Cavalry School for the second school year, commencing September 1, 1894, and ending with the graduating exercises on June 17, 1895.

The student class which completed the course at the school was composed of the following-named officers:

First Lieut. Charles H. Muir, Second Infantry; Second Lieuts. John S. Switzer and Joseph C. Castner, Fourth Infantry; First Lieut. Earl C. Carnahan and Second Lieut. Edward Sigerfoos, Fifth Infantry; Second Lieut. William H. Simons, Sixth Infantry; Second Lieut. William Wallace, Seventh Infantry; First Lieut. John A. Perry, Eighth Infantry; Second Lieut. Arthur W. Yates, Ninth Infantry; Second Lieut. Edward

A. Shuttleworth, Eleventh Infantry; Second Lieuts. Matt R. Peterson, Peter C. Harris and Frederick W. Fuger, Thirteenth Infantry; Second Lieut. Charles R. Krauthoff and First Lieut. Frank Owen, Fourteenth Infantry; First Lieut. Edmund Wittenmyer and Second Lieut. Henry J. Hunt, Fifteenth Infantry; Second Lieut. Benjamin F. Hardaway, Seventeenth Infantry; Second Lieut. Percival G. Lowe, Eighteenth Infantry; Second Lieuts. Jasper E. Brady, jr., and John Howard, Nineteenth Infantry; Second Lieut. Wilson Chase, Twentieth Infantry; Second Lieuts. Munroe McFarland and Ralph H. Van Deman, Twenty-first Infantry; Second Lieuts. Robert L. Hamilton and Albert C. Dalton, Twenty-second Infantry; Second Lieut. James E. Normoyle, Twenty-third Infantry; First Lieut. William Black and Second Lieut. John R. Seyburn, Twenty-fourth Infantry; Second Lieut. John S. Murdock, Twenty-fifth Infantry; Second Lieut. Robert C. Williams, First Cavalry; Second Lieut. James J. Hornbrook, Second Cavalry; Second Lieut. John P. Ryan, Third Cavalry; Second Lieut. Edward D. Anderson, Fourth Cavalry; Second Lieuts. Louis C. Scherer and James G. Harbord, Fifth Cavalry; Second Lieut. Ervin L. Phillips, Sixth Cavalry; Second Lieut. John O'Shea, Seventh Cavalry; First Lieut. John C. Waterman, Eighth Cavalry; Second Lieut. Matthew A. Batson, Ninth Cavalry; Second Lieut. Winthrop S. Wood, Tenth Cavalry.

The class originally reported with 46 members. Of these, 4 were relieved from duty at the school for various causes and 1 was found incapable of completing the course; the remaining 41 members, mentioned above by name, have received the diploma of the school. This class has shown ability, zeal, and soldierly conduct, and if opportunity affords it is confidently believed that the class will also testify in its work to the value of the course of study pursued at the school.

The following-named officers, having shown the greatest proficiency, are recommended by the staff to be declared "honor graduates" of the United States Infantry and Cavalry School:

(1) First Lieut. Charles H. Muir, Second Infantry; (2) Second Lieut. John P. Ryan, Third Cavalry; (3) Second Lieut. Peter C. Harris, Thirteenth Infantry; (4) Second Lieut. Winthrop S. Wood, Tenth Cavalry; (5) Second Lieut. Edward Sigerfoos, Fifth Infantry.

For a synopsis of the work done in the last year attention is invited to the accompanying reports of the instructors in charge of the several departments.

SEPARATING SCHOOL AND GARRISON.

From this time on it is probable that there will be no necessity for detailing any officer of the garrison for additional duty with the school, so that the former trouble, which resulted in temporarily crippling some departments by the absence of its instructors who were called upon for detached service with their companies, is not likely to arise again.

The separation of the school from the garrison has still further been effected by the now clearly defined limits of each. The instructors, assistant instructors, secretary, and student officers are assigned to quarters pertaining exclusively to the school, so that whatever changes occur in the personnel of the garrison they will not in any way affect the school. This is a great step in advance.

Some day McPherson and Thomas halls will have to be torn down. They were old barracks for enlisted men and have been used for quarters by student officers who had families. Being uncomfortably crowded

and lacking the conveniences demanded by decency, these quarters have been a cause of great complaint.

Awaiting the time when they shall disappear, it is the intention now to attempt to make them more habitable by converting them into nine sets of quarters instead of fifteen as heretofore. This has been rendered possible by the acquisition of the line of houses on Riverside, which were formerly used by officers on duty with the military prison.

This school has grown from a very disheartening start into a useful institution, and it is still growing; therefore, the benefits it bestows should become available to an increasing number of students until we should find a class of accomplished officers graduating every year. To do this it is absolutely necessary that more quarters be provided. They need not be luxurious, but they should be better than can be made out of Thomas and McPherson halls.

DETAILING OF STUDENT OFFICERS.

Regimental commanders in making selection of officers one year in advance of entrance at the school would assist greatly if their choice were made among those who they know to be qualified for the work. The school has passed beyond the preparatory stage. Its allotted time can not be diverted to preliminary study of algebra, geometry, and trigonometry. The attempt to help those lacking such elementary knowledge by sending them to the school for study a few months before the entrance of their class has been found not to produce results at all commensurate with the efforts made. If a young man has no training in those branches he can not acquire necessary proficiency in such a short time, and it is not desirable that he should be sent here to become an actual impediment in the development of the school. It must be remembered that comparatively few of the young officers can have the opportunity of benefiting by the facilities offered at this school. Therefore those who do come should be men capable of mastering the course.

If the study of text-books in algebra, geometry, and trigonometry is found necessary among commissioned officers, they should be sent to a school established for that purpose.

This school is intended to train officers in the practical application of methods.

DAILY MARKS FOR RECITATIONS.

The abolishment of daily recitation marks is strongly recommended. The student should be encouraged to ask information from the instructor on points which he does not clearly understand. This is often carefully avoided from the fear that by showing such need of explanation he will be cut one or more tenths in his mark for the day.

At the Military Academy the system would seem to be a necessary stimulus to exertion and the only means of accurately estimating the daily progress of the students. But to the commissioned officer there should be a higher motive in the sense that the Government is investing a certain capital in fitting him to make profitable return through increase of capacity for useful service.

The cadet congratulates himself if on any one day he has been so fortunate as to recite upon the only portion of the lesson which he studied to the exclusion of all the rest. The idea never enters his head that the neglected portion is a positive loss to himself, unless at some later day or at examination such neglected subject should happen to be given out to him, in which case he merely looks upon his fate

as unfortunate. The officer instead of jealously watching for tenths should look upon the school course as a mine of knowledge wherein he is at work for acquiring all he can to enable him to make proper return to the Government when called upon.

VALUE OF DIPLOMA.

The degree of proficiency to which the student should attain ought to be raised, and if at any time the officer is found neglecting his opportunities he ought to be sent away. Then the diploma given by this institution upon graduation should be a passport for the holder for all future examinations for promotion so far as they pertain to the subjects taught at the school.

INSTRUCTION IN DRILL REGULATIONS.

It is a waste of time at this school to insist upon recitations in drill regulations. The practice is a remnant of that resorted to in the infancy of the school when no one knew what else to turn his hand to in making a beginning. The captain of a company "is responsible for the theoretical and practical instruction of his officers, and requires them to study and recite the regulations so that they can explain thoroughly every movement before it is put into execution." No officer should be sent here to recite these drill regulations. It is intended, however, to give instruction by lecture upon the drill regulations of foreign armies in order to facilitate comparison with our own methods.

The field work in the departments of military art and engineering is developing in a very satisfactory manner.

This spring the barbed-wire fences which have been allowed for years to interfere with the field operations have been removed and numerous crossings made over railways and ravines, so that there will be increased opportunity for practical work. Attention is invited to the detailed description of such work given by the instructor in military art and the instructor in engineering.

For practical instructions in field operations with troops it is very desirable that at least one field battery be stationed at this post, as has been so often recommended. The infantry and cavalry should be increased. Of course this is looking to the future when necessary barracks can be provided.

The annex to the academic building is now completed and will give increased facility for instruction in all the departments. Attention is invited to the report of the secretary of the school showing the necessity for the service of a janitor to care for this large building.

The recommendation of the former commandant of the school for an appropriation of \$1,600 to purchase instruments for the department of engineering is renewed. The necessity for obtaining these instruments has been clearly shown in previous communications from the chief of the department and again in his report hereto attached.

Very respectfully, your obedient servant,

H. S. HAWKINS,
Colonel Twentieth Infantry, Commandant.

The ADJUTANT-GENERAL UNITED STATES ARMY,
Washington, D. C.

REPORT OF THE ADJUTANT-GENERAL.

ANNUAL REPORT

OF

THE ADJUTANT-GENERAL.

WAR DEPARTMENT, ADJUTANT-GENERAL'S OFFICE,
Washington, October 1, 1895.

SIR: I have the honor to submit my annual report for the year ended September 1, 1895.

ADJUTANT-GENERAL'S DEPARTMENT.

The death, February 19, 1895, of Lieut. Col. James P. Martin, late adjutant-general of the Department of the Missouri, and the retirement of one officer in May, 1896, will reduce the strength of the Adjutant-General's Department to the limit prescribed by the act of August 6, 1894.

All the officers of the Department, and those of the line on duty with the division of military information in this office, have performed their important and delicate duties with ability and efficiency.

THE DIVISION OF MILITARY INFORMATION.

On the 1st of March, 1895, Capt. Alexander Rodgers, Fourth Cavalry, was, upon his own application, relieved from duty in this division to enable him to return to service with his regiment. No other change in the personnel of the division has occurred since my last annual report.

Early in the year No. 4 of the information series, Notes on Organization, Armament, and Military Progress, was issued and, so far as the limited supply would permit, was distributed to the Army. This book is an epitome of the more important foreign military organizations and contains a detailed description of the modern small arms in use at home and abroad. It is intended to follow this publication by a series of Notes on Military Progress, the first of which will be issued during the coming year, containing such of the latest military information, not confidential, as may be on file in the military information division. No. 4 was followed later in the year by No. 5, the second issue of The Organized Militia of the United States, which presents in concise form a summary of the condition and efficiency for service of the State troops during the encampment season of 1894. No. 6, The Autumn Maneuvers of 1894, Austria-Hungary, France, and Germany, followed No. 5. This

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book contains a detailed narrative of the maneuvers, accompanied by carefully prepared maps, official orders, and statements of the numbers and organizations of the opposing forces, so that the operations can be studied in detail. It was issued to every troop, battery, and company in the Army.

The calls for military information are unceasing and come from officers of all grades, Members of Congress, other civil officers of the Government, and occasionally from civilians who have no connection with either the National or State governments. Frivolous inquiries are exceptional, so that nearly all questions are answered as fully as the information at hand will permit. In several cases the information communicated covered over 100 typewritten pages.

The moderate appropriation for contingencies of the military information division has proved to be just about sufficient for its requirements.

The collection of maps and charts has received large and important additions.

Numerous and interesting reports have been received from the various military attachés during the year.

The number of Army officers regularly employed at the State headquarters is this year 33, an increase of 6 over the details of last year. In all, during the year 1895, 43 States and Territories obtained the services of officers of the Army for temporary or regular duty with State troops. The assembly of troops of the permanent establishment with those of the States in State camps has now been essayed with success. The next step will be to assemble troops of the permanent establishment and troops of the several States in a common camp, within the limits of some Government park or reservation, to be brigaded with each other—as they would be in time of actual war—not by States, and to be maneuvered accordingly. This must be accomplished with the consent of officers of one State to serve under officers of another State of higher grade or earlier date of commission; and it may require some additional appropriation from the General Government. Gradually the instruction can be developed into autumn maneuvers for the instruction of the young men who are to be the colonels and generals in any future wars. Thus can they be educated beyond the theory, and made perfect in the practice of handling large bodies of men, so that in the day of hostilities they may come upon the field without a halting hesitation, with full confidence in themselves, and with a knowledge of what should be done to the economy of life and the winning of battles.

THE RECRUITING SERVICE.

The change established last year in methods of conducting the recruiting service, whereby general-service recruits are no longer held three months for instruction, but are promptly forwarded to regiments from recruiting stations and rendezvous, has been productive of good results.

In August, 1894, there were 1,516 recruits accumulated at the depots, now styled rendezvous; by October 31, 1894, there were but 224, and since then the number held at any one time at the four rendezvous, awaiting assignment, has averaged 152, or 38 to each rendezvous.

During the ten months ending July 31, 1895, 3,359 general-service recruits were forwarded to regiments—1,226 directly from recruiting stations and 2,133 from rendezvous. With the exception of a few large detachments in October and November, 1894, which were forwarded

under command of commissioned officers on discontinuance of depots, these recruits were sent to their stations under charge of some member of their respective detachments, and yet not a desertion en route has occurred.

By thus dispatching detachments without the expense of guards or escort, going and returning, a very considerable saving in cost of transportation has been effected. With a view to effect a still further saving in transportation and a reduction in city stations, every effort has been made of late to increase the number of enlistments at and in the vicinity of military posts. The measure of success attending these efforts will appear from the following:

Enlistments during the fiscal year 1895:

At stations.....	4,324
At military posts.....	3,456

Percentage of post enlistments to whole number, 44.

The transportation of recruits prior to assignment to regiments, and expenses incident to the conduct of the recruiting service, such as rent of stations, fuel, furniture, stationery, advertising, etc., which were formerly paid from an appropriation for "Expenses of Recruiting," are now provided for in the appropriations for the Quartermaster's Department, and the business of the service is simplified accordingly.

The act of August 1, 1894, confining first enlistments in the Army to persons not over thirty years of age, who are citizens of the United States, or who have made legal declaration of intention to become citizens thereof, and who can speak, read, and write the English language, and the more recent prohibition by the Secretary of War of the acceptance of minors, except as musicians, have resulted in a material improvement in the character of men received as recruits, and have not interfered to prevent the enlistment of men in sufficient numbers to keep the ranks well filled throughout the year.

The number of vacancies in the Army, July 31, 1895, was 597. Of these 490 were in the line and 107 in the staff departments. At this date, October 1, these vacancies have been materially reduced.

The average number of vacancies during the year ending July 31, 1895, was 448; the greatest number of vacancies was 710, and the smallest number was 67; so that when the Army was the lowest in strength, they did not average 2 to each of its 360 organized companies, while the general average for the year was hardly more than 1 to a company.

As a large percentage of the recruits enlisted during a month are assigned to regiments within the month, while the losses for the month can not be definitely known until some time after its close, it is not practicable to keep the ranks of the Army absolutely filled with recruits. For this reason, and also at times to guard against exceeding the legal limit of 25,000 enlisted men, it has been necessary to place some restrictions on recruiting. The effort has been to maintain, so far as practicable, a steady rate of enlistment commensurate with the losses.

In order to reach desirable classes, the large recruiting posters furnishing information regarding enlistments in the Army are freely used. They have been placed in the armories of the National Guard of many of the States, with the consent of the proper authorities, and, through the courtesy of the Postmaster-General and the cooperation of postmasters, are now displayed in post-offices throughout the country.

In October, 1894, there were in operation thirty general recruiting stations. Since then one station in New York City has been closed

and one opened in Brooklyn, N. Y. Four stations—Washington, D. C., Springfield, Mass., Newark, N. J., and one of the three stations at Chicago—were closed September 30, 1895, and one new station is to be opened at Richmond, Va. There will thus be a reduction of three in the number of stations occupied last year. As six stations were closed during the year ending October 1, 1894, there will be a total reduction of nine stations in the last two years.

In September, 1894, there were 64 officers detached from their respective commands for duty on the general recruiting service, viz: 2 colonels at headquarters, 3 lieutenant-colonels, and 30 captains or lieutenants at recruiting depots; and 29 captains or lieutenants at recruiting stations.

The duties and records of the superintendent of the recruiting service are to be transferred to this office October 1, 1895. The officers required for duty with the recruiting detachments at the four rendezvous—Davids Island, N. Y., Columbus Barracks, Ohio, Jefferson Barracks, Mo., and Fort Sheridan, Ill.—will be supplied hereafter from officers of these garrisons.

The general recruiting detail for 1895–1897 is to go into effect October 1, 1895, and is limited to 24 captains or lieutenants, who will take charge of recruiting stations. Thus there is now to be a reduction of 40 officers in the number heretofore detached for general recruiting duty.

The general recruiting stations, in cities, as provided for by existing instructions, are:

Two in Chicago, Ill., and one in each of the following-named cities: Boston, Mass.; New Haven, Conn.; New York City, Albany, Brooklyn, and Buffalo, N. Y.; Philadelphia, Harrisburg, and Pittsburg, Pa.; Cincinnati and Cleveland, Ohio; Indianapolis and Evansville, Ind.; Detroit, Mich.; Milwaukee, Wis.; St. Paul and Minneapolis, Minn.; San Francisco, Cal.; Seattle, Wash.; St. Louis, Mo.; Louisville, Ky.; Nashville, Tenn.; Baltimore, Md., and Richmond and Lynchburg, Va. As but 24 officers are provided for these 27 stations, 3 of them are to conduct 2 stations each. The officer for the station at San Francisco is detailed by the commanding general, Department of California, and the 1 at Seattle by the commanding general, Department of the Columbia, from regiments in their proper commands.

Special recruiting is carried on for ten regiments and for the Light Artillery Battalion. The special recruiting officers at the following-named stations make enlistments for the general service:

Allegheny, Pa., Springfield, Ill., Grand Rapids, Mich., Janesville, Wis., Des Moines, Iowa, Portland, Oreg., and Dallas, Tex.

Officers of the general recruiting details are to make enlistments for their own regiments whenever possible with due regard to economy of transportation, to fill actual vacancies of which they may be notified by their respective regimental commanders.

Indian enlistments.

The whole number of Indian soldiers enlisted up to June 30, 1895, was 1,033; of these 24 were enlisted during the fiscal year ending that date. There were also enlisted 39 Indian scouts during the past fiscal year. There is now but one Indian company in service, Troop L, Seventh Cavalry, and enlistments of Indian soldiers are discontinued.

General results.

The total number of enlistments in the Army during the fiscal year ending June 30, 1895, for the legal limit of 25,000 men, was 7,780, classified as follows:

For the general recruiting service	3, 739
For the special regimental recruiting service	863
For the department recruiting service	1, 253
For the Battalion of Engineers.....	90
	<hr/>
	5, 945
For regiments, detachments, etc.....	1, 835
	<hr/>
Total	7, 780

Of the 7,780 accepted recruits, 5,518 were native born and 2,262 of foreign birth; 7,174 were white, 543 colored, and 63 Indians.

Excluding reenlistments, the percentage of native born among the accepted applicants for original enlistment was 76½.

Reports show that the recruiting officers making the 5,945 enlistments embraced in the first four items of the foregoing list rejected 38,240 applicants, or 86½ per cent of the whole number seeking enlistment, as lacking some of the requisite qualifications—physical, mental, or moral. The number rejected as aliens was 2,545.

The following comparison indicates that the efforts to prevent undesirable men from entering the Army are meeting with success:

	Fiscal year end- ed June 30—	
	1894.	1895.
Discharged for fraudulent enlistment.....	259	150
Discharged by sentence of general courts-martial.....	1, 089	779
Deserted in first year of enlistment	731	640
Total	2, 079	1, 569

Difference in favor of fiscal year 1895, 510.

MILITARY COLLEGES.

The data in the statement herewith, tabulated from the reports of officers on duty as professors of military science and tactics at universities and colleges, give evidence of the increasing favor in which the people hold instruction blending physical training with scholastic studies. The total average number of students during the past year at these institutions was 35,638. Of these, 23,723 were capable of military duty, 12,681 were required, under college rule, to be enrolled as military students, and the whole number that received military instruction during the last quarter of the scholastic year was 14,561. Four years ago the figures under the first, second, and third heads were, respectively, 16,537, 12,301, and 7,366. This record shows that the total average attendance of students at those universities and colleges has more than doubled in four years, and that the interest in the military course of faculties and students has kept pace therewith.

Fully impressed with the physical and mental advantage to our youths that accrue from a course of military drill, I have the honor to recommend that, as their terms expire, instructors be withdrawn from the smaller institutions where they are now engaged and be detailed

only at those which have great numbers of students, and where attendance at the instruction shall be required from the majority of them.

From the last printed report on education it is found that 68 high schools, in 23 States, have an attendance of over 20,000 scholars, none of these schools having less than 150 students. This attendance is distributed as follows:

150 scholars and under 200.....	22
200 scholars and under 300.....	21
300 scholars and under 400.....	11
400 scholars and under 500.....	9
Over 500 scholars	5
<hr/>	
Total.....	68

Many applications received from such institutions for details could not be granted in the past for the reason that the number of officers authorized by law for this duty had already been placed.

The report for the past year of the officer who, with the consent of the War Department, volunteered his services, as stated in my last annual report, to drill and instruct the cadet battalion of the Omaha High School, is of interest. The average attendance of the youths in the battalion has increased from 180 to 208, and this without the incentives of arms or equipments. Upon the recommendation of the officer in charge, First Lieut. Julius A. Penn, Second Infantry, the board of education of that city adopted the West Point uniform of gray blouse and trousers, with a dark blue cap with suitable device, at the low cost of \$13.55 for the complete uniform. He reports that "the neat and soldiery appearance of the cadets, the excellent quality of the cloth, and the wear of the uniform, have been the subject of frequent favorable comment by scholars, teachers, and parents."

THE MILITARY ACADEMY.

The report of the Superintendent, with its accompanying papers, exhibits fully the present condition of the institution in its several departments, gives evidence that the general administration of its affairs has been satisfactory, and that the high standard of instruction that has always prevailed at this great national military school has been maintained.

The number of cadets at the Military Academy September 1, 1895, was 323, and one foreign student receiving instruction by special authority of Congress, or 48 below the legal organization. As experience shows the impracticability, by reason of the intervals between dismissal of cadets for deficiency or misconduct and admission of their successors, of keeping the number up to the legal maximum, I beg to renew the recommendation, made in my last report, that the President be authorized to make ten appointments at large each year, and that two at large from each State be nominated by the Senators representing such State in Congress.

The senior assistant instructors in cavalry, artillery, and infantry drill regulations receive the pay of captain mounted. The officers holding like positions in the departments of practical engineering, and of ordnance and gunnery, are the only senior assistants who receive only the pay of their actual rank in the Army. I have, therefore, the honor to recommend that all assistant instructors and the adjutant of the Academy, whose duties are exacting and important, receive the pay and emoluments of a captain mounted.

I fully concur in the further recommendations made by the superintendent that the master of the sword, who is also instructor in gymnastics and swimming, be given the rank, pay, and emoluments of a first lieutenant of infantry, and that the organization of the Military Academy band, as to numbers and pay, be restored to that existing prior to the reduction in 1877, viz, one teacher of music and forty enlisted musicians, ten at \$34 and thirty at \$30 per month; that the leader of the band have the rank, pay, and emoluments of a second lieutenant of infantry. The master of the sword is now a civilian appointed by the Secretary of War, and is required to preserve discipline and exercise control of the cadets while under his instruction. To strengthen his hands, and in acknowledgment of the great and increasing importance of his department, he should have military rank.

Attention is called to the urgent necessity, as represented by the surgeon and concurred in by the superintendent, for the construction of a modern operating room in the cadet hospital.

Congress, at its last session, made a small appropriation for the purpose of procuring from architects plans and specifications for the much-needed renovation of the library, which, September 1, 1895, contained 38,203 volumes and 5,914 pamphlets. It is earnestly recommended that the full amount of the estimate submitted be allowed and made available at once, in order that the work of renovation be pushed to completion as rapidly as possible.

Drivers for the light battery are, of necessity, obtained from the cavalry detachment. This service involves considerable wear and tear of clothing, for which the men do not receive compensation. Formerly they were paid 30 cents each day for the time during which they were employed on this extra duty, but this item was, accidentally, omitted from the appropriation for the current year. The total amount required for 28 men is but \$840 for the year. It is recommended that it be restored in the next appropriation bill.

GOVERNMENT HOSPITAL FOR THE INSANE.

The following is a list of persons committed to the Government Hospital for the Insane, under the orders of the Secretary of War, from September 1, 1894, to September 1, 1895:

Officers of the United States Army	3
Officers of the United States Army (retired).....	1
Enlisted men of the United States Army.....	16
Late soldiers of the United States Army.....	2
Total	22

INDIAN SOLDIERS.

The only existing Indian organization, Troop L, Seventh Cavalry, composed of 24 Kiowa and Comanche Indians, was enlarged June 11, 1895, by the transfer to it of the 43 enlisted Indians of Company I, Tenth Infantry. The 24 men are to continue on duty as cavalry soldiers until they shall become entitled to discharge; the 43 are to be employed and controlled as before the transfer, but are to be neither mounted nor equipped as cavalymen. Ultimately they are to be discharged.

HUNTING LEAVES.

The General of the Army in 1880, with the approval of the Secretary of War, ruled that permission to hunt should not be considered as leave, if the officer obtaining the privilege, on his return to his station, should file with the commanding officer a certificate that his absence had been employed solely in hunting and should furnish, in addition, as complete a description of the country passed over as circumstances would permit. (A. R. 58, 1889.)

This authority for hunting does not extend to fishing.

It is to the interest of the service that the officer when not required for duty should not be held a prisoner within the lines of sentry posts. He should roam over the country, learn its topography, become familiar with the roads and ravines and with woodcraft, accustom himself to remain overnight in camp or in bivouac, and, when in the neighborhood of towns, mingle with mankind and become, through interchange of ideas with civilians, a wider American citizen. When thus engaged, and within easy call of his commanding officer when required, he should not be charged with leave of absence. He should be held as on a status of duty.

The imposition of conditions has operated largely to discourage officers and to hold them in garrison when not actually required there. In view of the personal and professional benefits resulting to officers by ranging in the neighborhood of their posts, I recommend that, whenever it can be done without detriment to the service, permission to visit the surrounding country, within easy call, without conditions or restrictions, be authorized within the discretion of the commanding officer.

FURNITURE FOR OFFICERS' QUARTERS.

Under the present law of lineal promotion, changes of station of officers occur much oftener than in the past.

The allowance of transportation of an officer's baggage, liberal as it is, should not be increased; but this allowance is not sufficient to cover the carriage of his furniture and his necessary belongings. It frequently happens that the savings from his salary since the last change of station are more than dissipated by a new transfer, to his embarrassment and, at times, to the detriment of his professional efficiency. In the quarters recently erected by the Quartermaster's Department, it has provided stationary sideboards and Venetian blinds or shades. Should dining tables, and perhaps bedsteads, be furnished in like manner by the Quartermaster's Department, to be issued and receipted for by the officer, with a charge for its use of a small percentage on the original cost to cover ordinary wear and tear, and a stoppage against his pay for loss and damage, all necessity for transportation of these heavy and bulky articles of furniture would be obviated. His baggage, on transfer, would thus be limited to professional books, already authorized, rugs, china, beds and bedding, family silver, and chairs, and brought within and perhaps below the present authorized allowance, with a saving to himself and possibly to the Government.

THE YELLOWSTONE NATIONAL PARK.

The officer in command of the troops on duty at Fort Yellowstone is ex officio the superintendent of the National Park. He is charged with the police and good order of the park, the preservation of its game,

and the construction and repair of its roads. For this he receives no compensation. By reason of his position of superintendent he is in constant receipt of letters of introduction commending to his courtesy distinguished foreigners and people of note in our own country who visit the park. To these he must extend more or less hospitality and civilities at the expense of his private purse.

The subject of additional compensation, in view solely of the peculiar demands attached to certain positions, was recognized and partially met by Congress as early as the beginning of the present century, when, by the act of March 16, 1802, commanders of permanent posts and stations, among others, were granted double rations, or commutation therefor. It is now recognized by giving to certain officers local rank and pay.

I recommend that an appropriation of \$500 be made and that this amount be allowed to the commanding officer of the troops in the National Park to compensate him for the extraordinary expenses to which he is subjected by reason of his exofficio position of superintendent of the park.

BATTALION COMMANDERS AND BATTALION STAFF OFFICERS OF INFANTRY.

The present drill regulations for the infantry, approved by the Secretary of War, are based on a regimental organization composed of three battalions, and the proper supervision by the battalion commanders of the evolutions and movements of their battalions demand that they and their adjutants shall be mounted. While the reorganization of the infantry arm of the service on a three-battalion basis has not yet been authorized by Congress, infantry regiments are, for drills and parades, divided into two battalions, in order that the troops be fully instructed under the revised code. From lack of field officers it often happens that captains and lieutenants acting as battalion adjutants, furnish their mounted equipments and mounts, and are compelled to feed the horses used by them under the requirements of the drill regulations.

I recommend that the battalion organization of infantry be recognized by law at the earliest possible moment; and that, till this be done, such battalion officers not already mounted as may be required to provide mounted equipments and mounts for themselves for the proper performance of their military duties in the battalion organization, be allowed forage, upon the certificates of their respective department commanders, under Army Regulations 1443.

ARMY BANDS.

The proper maintenance of the regimental band is a question requiring remedial legislation. The band has been an adjunct of the regiment since the foundation of the Government, and has always been recognized as contributing to the pleasure, the contentment, and the discipline of the enlisted men. As at present organized it is composed of 1 chief musician authorized by law, and 1 sergeant, and 20 privates possessing musical ability, detached from companies, and is of no expense to the Government other than the cost of instruments and music. These men are instructed as soldiers and liable at any time to be called on for duty as such.

The band is maintained by (1) the savings of rations; (2) 5 per cent of the profits of the post exchange; and (3) earnings from private engagements for parties in civil life. A portion of the money thus obtained by hiring out the band is paid to the men to secure first-class musicians, for it is found impossible to maintain good military bands on the pay (\$13) of the private soldier. The outside engagements of bands have been the source of much correspondence growing out of the objection from bands in civil life. Although the Army bands have always been prohibited from furnishing music at prices lower than charged by other bands, the civilian often prefers the military organization, and as a result there is endless protest. Upon one occasion, one of the States from which the Government asked the cession of jurisdiction required by the Constitution, demanded, as the condition thereof, assurance that competition of soldier with citizen labor should be discontinued within its boundaries. Surely, the great Government that can provide its soldiers with the best of arms and ammunition, of clothing and rations, and quarters and medical attendance, should not stoop to obtain its martial music by hiring out its bands to processions, to balls, to theaters, to gardens, and to anything that may bring in money.

I, therefore, recommend that regimental bands be authorized by law, and organized and paid as follows:

One principal musician, \$75; one sergeant, \$50; ten privates, \$25; and twelve privates, \$20 per month.

PAY OF NONCOMMISSIONED OFFICERS.

The grade of noncommissioned officer is the intermediary between that of the private and that of the commissioned officer.

The noncommissioned officer is always in immediate contact with the men. On his force of character, good capacity, strict integrity, untiring energy, and soldierly qualities depends, in a great measure, the success of military administration. The very slight increase of his present pay over that of the private soldier is totally incommensurate with the responsibility placed upon him and the onerous duty required of him. He receives less pay than the private soldier on extra duty; and so it not infrequently happens that the good soldier in the ranks prefers extra duty in the staff departments to the chevrons of the noncommissioned officer. This should be remedied by establishing such remuneration as will induce men of high intelligence to enter the Army with the object of making the career of the noncommissioned officer that of their lives.

I have, therefore, the honor to recommend a careful readjustment of the pay table of the enlisted men, with a view to the adoption of a scale that, while doing simple justice to the noncommissioned officer class, will offer an incentive to the man in the ranks to strive for promotion to that honorable grade.

PROMOTION FROM THE RANKS.

The act of June 18, 1878, provided for the promotion, to the grade of commissioned officer, of meritorious noncommissioned officers found morally, intellectually, and physically qualified for promotion.

Under the act of July 30, 1892, all unmarried soldiers, under 30 years of age, of sound physique, who, being citizens of the United States, shall have served honorably in the ranks not less than two

years, have borne a good character both before and since enlistment, are permitted to compete at prescribed examinations for commissions in the Army.

It was anticipated that this legislation would incite the ambition of men in the ranks, and attract to the military service young men of superior character and education whose presence in the ranks would greatly benefit the discipline and morale of the Army.

There are now in the Army 109 officers of the line who were promoted from the ranks since the passage of the act of June 18, 1878. In the decade beginning with that year, 43 men with an average service in the ranks of six years and one month gained commissions. From 1888 to January 1, 1895, 66 men with an average service of four years and twenty days were promoted to the grade of second lieutenant. For the four years—1888 to 1891—following the first decade, the average length of service in the ranks fell from six years and one month to four years and six months. It has since fallen to three years and five months. Should the present conditions continue it may soon be reduced to two years, the minimum of service contemplated by the law of July 30, 1892.

It would seem, therefore, that the men who now compete for promotion are not so much men who enlist to be good soldiers as men who "enlist for commissions." Some of the disappointed have already sought discharge by favor.

PRINTING AND BINDING FOR THE ARMY.

Section 87 of the act of January 12, 1895, for the public printing, binding, and distribution of public documents, provides that all printing and binding for the Executive Departments shall be done at the Government Printing Office, and section 89 forbids, with some exceptions not affecting the subject of these remarks, the printing of any report, publication, or document in excess of the number of one thousand of each, in any fiscal year, without the authority of Congress.

This limitation affects certain army publications of the greatest importance, such as the annual Army Register, the General Regulations for the Army, Drill Regulations, the Soldier's Hand Book, the Manual of Guard Duty, etc., which should be placed in the hands of the Army, for its information, instruction, and guidance, in numbers exceeding one thousand, without the delay incident to application to Congress. For this purpose these publications should be printed and distributed at the earliest moment after their approval and adoption by the War Department.

I have the honor, therefore, to recommend that Congress be asked to amend section 89 of the act of January 12, 1895, by adding to the exceptions already made to the general rule, such publications, of the nature of those indicated above, as may be determined by the Secretary of War to imperatively demand a larger immediate edition than that now fixed by law.

THE ADJUTANT-GENERAL'S OFFICE.

The legal organization of the clerical and other force of the office remains the same as at the date of my last report.

The number of reports, on calls, to the Pension Office, the Auditors for the War and Navy Departments, the Comptroller of the Treasury, the General Land Office, and the several bureaus of the War Depart-

ment, on pension and other kindred claims, is exhibited in the following table, which shows that no call remained unanswered September 1, 1895:

Bureaus.	On hand September 1, 1894.	Calls re- ceived.	Reports fur- nished.	On hand September 1, 1895.
Commissioner of Pensions.....		5, 778	5, 778	
Auditor for the War Department.....		2, 969	2, 969	
Auditor for the Navy Department.....		3	3	
Comptroller of the Treasury		2	2	
General Land Office.....		13	13	
Quartermaster-General		32	32	
Commissary-General of Subsistence.....		17	17	
Paymaster-General		67	67	
Surgeon-General.....		162	162	
Miscellaneous.....		210	210	
Total		9, 253	9, 253	

The efficiency board, composed of the officers of the Adjutant-General's Department on duty in this office, with the chief clerk as recorder, has met as required in January and July of the present year and carefully reviewed the marking of the clerks and other employees as given by the chiefs of the four divisions of this office, and performed its delicate duty to my entire satisfaction.

I take pleasure in giving expression to my appreciation of the zeal, industry, and general intelligence of the clerks of this office.

Respectfully submitted.

GEO. D. RUGGLES,
Adjutant-General.

HON. DANIEL S. LAMONT,
Secretary of War.

Tabulated statement from reports of professors of military science and tactics, showing average attendance of students at universities and colleges.

Universities and colleges.	Average number of students.		Whole number of students capable of military duty.	Number required by the institution to be enrolled as military students.	Total number that received military instruction during the last quarter.	Attendance at—		Attitude of students.	Interest manifested by—	
	(Over 15 years of age.	Under 15 years of age.				Artillery drills.	Infantry drills.		Students.	Faculty.
Alabama	221		208	308	208		148	Good	Good	Good.
Alabama Agricultural and Mechanical College, Auburn							70	Very good	Fair	Lacking, except in the case of the president. Excepting one member, 90 per cent. Very satisfactory.
University of Alabama, Tuscaloosa County.	152		123	(¹)	116		58	99 per cent	90 per cent	
Arkansas	74	15	74	77	72		282	Good	Good	Good
Searcy College, Searcy					334		222	Excellent	Fair	Fair.
Arkansas Industrial University, Fayetteville	516	46	562	286	486	17	77	Excellent	Good	Good.
California	948		483	483	486					
University of California, Berkeley					79					
Mount Tamalpais Military Academy, San Rafael	50	29	79	70						
Colorado	150		101	100	106	9	97	Good	Satisfactory	Satisfactory.
State Agricultural College, Fort Collins										
University of Connecticut, Storrs	600		600	166	163		76	Excellent	Good	Good and growing.
Shelton Scientific School of Yale University, New Haven										
Delaware	72		70	(²)	34	11	23	Fair	Fair	Fair.
Delaware College, Newark										
Florida	106	17	109	(⁴)	129		119	Good	Excellent	Very good.
Florida Agricultural College, Lake City										
Georgia	85	4	86	79	94	16	31	Fair	Fair	Fair.
North Georgia Agricultural College, Dahlonega										
Gordon Institute, Barnesville	201	146	347	122	113		66	Very good	All that can be desired.	All that can be desired.
Middle Georgia Military and Agricultural College, Milledgeville	40	234	264	70	92	43	62	Good	Good	Good
Idaho	67	1	68	68	75	7	40	Good	Good	Good.
University of Idaho, Moscow										Optional.

¹ Not given.

² All not exempted.

³ Including females.

⁴ All able-bodied males.

¹ Including females.

² All not exempted.

³ Not given.

⁴ All able-bodied males.

Tabulated statement from reports of professors of military science and tactics, showing average attendance of students at universities and colleges—Cont'd.

Universities and colleges	Average number of students		Total.	Whole number of students capable of military duty	Number required by the institution to be employed as military students.	Total number that received military instruction during the last quarter.	Attendance at—		Students.	Faculty.	
	(Over 15 years of age.	(Under 15 years of age.)					Artillery drills.	Infantry drills.			
Illinois											
University of Illinois, Champaign.....	568		568	490	236	236	16	179	Very good	Very satisfactory	
Knox College, Galesburg.....	500		500	155	70	110	16	92	Most excellent	Great	
Northern Illinois Normal School, Dixon.....	500		500	300	(¹)	84	61	61	Fair	Small	
Western Military Academy, Upper Alton.....	35	9	44	23	46	46	20	38	Very satisfactory	Satisfactory	
Indiana											
DePauw University, Greencastle.....	600		600	300	106	110	15	126	Good	Good.	
Vincennes University, Vincennes.....	48	7	55	60	55	60		52	Good	Good.	
Purdue University, Lafayette.....	475		475	390	139	150	10	108	Good and increasing.	Same as in other departments of the university.	
Iowa											
Cornell College, Mount Vernon.....	181	3	184	133	133	143	17	78	Very good	Very good.	
Iowa State University, Iowa City.....	226		226	210	165	165	17	100	Satisfactory	Highly satisfactory.	
Iowa Wesleyan University, Mount Pleasant.....	196	3	199	116	96	96	9	92	Good	Good.	
Iowa State Normal School, Cedar Falls.....	637		637	190	196	190	16	189	Fairly good	All that can be desired.	
Kansas											
State Agricultural College, Manhattan.....	374		374	220	137	150	6	143	Increasing	Very little improving.	
Baker University, Baldwin.....	196		196	195	(¹)	121		102	Fair	Fair.	
Kentucky											
Agricultural and Mechanical College of Kentucky, Lexington.....	162	5	167	143	132	140	21	83	Only fair	Satisfactory.	
Central University of Kentucky, Richmond.....	205	25	230	215	153	153	17	120	Fair	Very good.	
Georgetown College, Georgetown.....	200	46	246	215	60	60		36	Excellent	Excellent.	
Louisiana											
Louisiana State University and Agricultural and Mechanical College, Baton Rouge.....	177	5	182	182	182	189	12	160	Good	Only fair.	
Maine											
Maine State College of Agriculture and the Mechanical Arts, Orono.....	168		168	154	153	166		144	Very good	Very good.	

	100	20	120	129	123	132	120	Good	Active	Excellent
Maryland										
St. John's College, Annapolis.	100	20	120	129	123	132	120	Good	Active	Excellent
Maryland Agricultural College, College Park.	126	11	137	137	133	139	122	Very good	Very considerable	Very favorable
Prince George County.										
Massachusetts										
Massachusetts Agricultural College, Amherst.	116		116	100	114	113	106	Excellent	Generally excellent	Excellent
Massachusetts Institute of Technology, Boston.	1,125	1,125	1,000	291	261	261	95	Very good	Considerable	Slight
Harvard University, Cambridge.	2,671	2,671	1,944	(*)	65	65	30	Excellent	Slight	Fair
Michigan										
Michigan Military Academy, Orchard Lake.	132	3	135	135	136	136	44	Good	Great	Great
Michigan Agricultural College, Lansing.	220		200	200	166	166	103	Good	Good	Good
Hilldale College, Hillsdale.	275		275	145	85	85	14	Excellent	Excellent	Excellent
Minnesota										
University of Minnesota, Minneapolis.	2,150	2,150	600	250	260	260	10	Good	Good	Very good
Bishop Seabury Mission, Faribault.	136	15	153	153	153	153	(*)	High order	High order	All that can be desired.
Mississippi										
Agricultural and Mechanical College, of the State of Mississippi, Oktibbeha County.	228	2	230	229	245	245	18	Good	Good	Good
Missouri										
University of the State of Missouri, Columbia	507		507	491	174	166	86	Good	Not much	Very little
Washington University, St. Louis.	392	143	540	292	194	194	149	Good	Good	Good
St. Louis University, St. Louis.	125	175	300	40	168	163	133	Above average	Satisfactory	Entirely satisfactory.
Missouri Military Academy, Mexico.	54	10	64	(*)	64	50	14	Good	Good	Good
Marquette Military Institute, Sweet Springs.	56	7	63	63	63	65	21	Very good	Very encouraging	All that could be desired.
Nebraska										
University of Nebraska, Lincoln.	1,123	18	1,141	774	400	323	294	Good	Excellent	Good
Doane College, Crete.	60		60	60	61	61	53	Good	Good	Very great
Nevada										
State University of Nevada, Reno.	92	54	116	92	92	92	88	Good	Deep	Deep
New Hampshire										
New Hampshire College of Agriculture and the Mechanic Arts, Durham	66		66	51	51	52	45	Good	Good	Good
New Jersey										
Rutgers College, New Brunswick.	179		179	173	120	120	117	Good	Good	Good
Schen Hall College, South Orange.	63	10	103	102	107	107	97	Good	Satisfactory	Satisfactory
New York										
Cornell University, Ithaca.	1,490		1,580	1,200	326	326	18	Excellent	Good and growing	Favorable and growing.
St. John's College, Fordham, New York City	158	42	200	150	108	108	125	Good	Fair	Very satisfactory
St. John's Military School, Manhattan.	77	10	87	65	66	60	32	Very good	Very good	Equal to that shown in any department.
New York (continued)										
De La Salle Institute, New York City	156	80	136	140	236	236	21	Good	Zealous	Earnest
Peekskill Military Academy, Peekskill.	198	17	125	115	115	115	106	Good	Generally good	Generally good.
Clinton Liberal Institute, Fort Plain.	54	4	58	58	67	67	11	Good	Fairly good	General.
College of St. Francis Xavier, New York City	410	423	643	420	331	356	263	Good	Good	Good
River View Academy, Poughkeepsie.	140	20	160	160	160	150	130	Excellent	Excellent	Excellent.
North Carolina										
Bingham School, Asheville	71	4	75	70	69	62	15	Good	Good	Very good
Davis School, Winston.	66	6	64	60	92	85	73	Fair	Fair	Fair
North Dakota										
University of North Dakota, Grand Forks.	101	2	108	60	43	43	41	Good	Fair	Fair
										* Including females.
										* Not given.
										* None.

* Not given.

* None.

* Not known.

* Including females.

Tabulated statement from reports of professors of military science and tactics, showing average attendance of students at universities and colleges—Cont'd.

Universities and colleges.	Average number of students.		Whole number of students capable of military duty	Number required by the military to be enrolled as military students.	Total number that received military instruction during the last quarter.	Attendance.		Attitude of students.	Interest manifested by—	
	Over 15 years of age.	Under 15 years of age.				Artillery drill.	Infantry drill.		Students.	Faculty.
Ohio			Total							
Ohio State University, Columbus	525		525	321	281	13	177	Good	Good	Good.
Ohio Normal University, Ada	1,116	47	1,163	506	226	21	219	Excellent	Very good	Very encouraging.
Ohio Wesleyan University, Delaware	750		750	600	125	10	74	Good	Fair	Fair only by a minority.
Mount Union College, Alliance	145		145	116	106	15	64	Good	Strong for about half	Not strong enough to provide necessary funds for department.
Willberforce University, Willberforce	110	1	111	111	111	25	89	Fair	Very good	The Mifflint.
Oregon										
State Agricultural College, Corvallis	224		224	138	138		115	Good	Good	Fair
Pennsylvania										
The Pennsylvania State College, State College.	242	14	256	208	200	19	192	Good	Great	Great.
Allegheny College, Meadville	189		189	145	60	17	40	Good	Average	Good.
Pennsylvania Military College, Chester	97	5	102	97	108		98	Decided	Well sustained	Satisfactory.
Grove City College, Grove City	160	6	166	142	91		91	Good	Mostly good	Very good.
Grunt College, Philadelphia	83	1,417	1,500	895	701		147	Excellent	Excellent	Excellent.
Franklin and Marshall College, Lancaster	153		153	149	60		40	Very good	Very good	Very good.
Rhode Island										
Brown University, Providence	650		650	600	216	87	106	Good	Fair	Excellent.
College of Agricultural and Mechanical Arts, Kingston	52		52	52	52	18	47	Good	Great	Very great.
South Carolina										
South Carolina Military Academy, Charleston	130		130	130	132		106	Excellent	High	Satisfactory.
Clemson Agricultural College, Clemson College.	317		317	303	221	16	238	Good	Very good	Very great.
South Dakota										
Agricultural College of South Dakota, Brookings.	169	5	164	161	87	16	70	Very satisfactory	Great	Fair.
University of South Dakota, Vermillion	94	1	95	83	65	18	52	Fair	Satisfactory	Favorable.

Tennessee		270	33	270	185	98	98	20	88	Good	Good	Good
University of Tennessee, Knoxville		26	.....	270	50	30	30	.....	26	Small	Not very great	The principal is interested, other instructors have no voice.
Memphis Institute Memphis		170	10	170	180	166	(¹)	41	27	Good	Very good	Very good.
Texas		242	.....	242	240	240	254	.....	210	Excellent	Excellent	Very fair.
Agricultural and Mechanical College of Texas, College Station.		259	75	325	130	73	83	9	66	Fair	Not satisfactory	Fair.
Baylor University, Waco		90	6	90	85	96	103	.....	66	Excellent	Satisfactory	Very satisfactory.
Austin College, Sherman		188	.....	188	102	84	86	.....	56	Fairly good	Good	Good.
Utah		150	.....	150	170	170	170	.....	103	Good	Good	Good.
Vermont		63	.....	63	54	54	54	17	43	Excellent	Excellent	Excellent.
University of Vermont Burlington		138	7	145	79	72	80	9	67	Fair	Fair	Fair.
Norwich University, Northfield		264	3	267	238	296	240	32	168	Good	Good	Good.
Vermont Academy, Saxtons River		176	.....	176	170	170	176	96	176	Good	Considerable	Good.
Virginia		44	12	56	56	56	57	8	54	Good	Satisfactory	Satisfactory.
Virginia Agricultural and Mechanical College, Blacksburg		155	.....	155	120	(¹)	130	.....	113	Good	Only good	Very great.
Virginia Military Institute, Lexington		120	.....	120	74	74	89	.....	62	Good	Good	Fair but not what it should be.
Washington		230	.....	230	208	(¹)	96	19	89	Very good	Fair	None
University of Washington, Seattle		1,520	.....	1,520	1,220	278	224	.....	184	Excellent	Off and n. c. off	Satisfactory.
Washington Agricultural College, Pullman		106	.....	106	83	75	75	.....	68	Excellent	Marked	Marked.
West Virginia		34	.....	34	23	20	32	11	20	Good	Considerable	All that could be desired.
West Virginia University, Morgantown												
Wisconsin												
State University of Wisconsin, Madison												
Wyoming												
Lawrence University, Appleton												
University of Wyoming, Laramie												

¹ Not given.

² All except students in pharmacy department

³ None.

REPORT OF THE INSPECTOR-GENERAL.

REPORT
OF THE
INSPECTOR-GENERAL OF THE ARMY.

WAR DEPARTMENT,
INSPECTOR-GENERAL'S OFFICE,
Washington, D. C., October 1, 1895.

SIR: Since the rendition of my last annual report of the operations of this department the inspection service has undergone several important changes, inaugurated in the interest of economy, efficiency, and equalization of work. Under the provisions of General Orders, No. 18, Headquarters of the Army, 1895, six independent inspection districts were established and each placed in charge of an inspecting officer with headquarters at an important commercial center, whence a tour of inspection could be readily made. The change to districts carried with it a reduction of nearly one-half of the commissioned personnel of the department, and there is now but one officer attached instead of six at the close of the preceding year.

The new system began under good auspices, with the assured support of higher military authority and the well-recognized zeal and efficiency of the subordinates of this department.

Last year I had the gratification of reporting a complete inspection of the military establishment and all that pertains to it, but this year there was an unavoidable interruption during the period of instituting inspection districts and arranging the details thereof, which occurred at a time usually devoted to the inspections in the southern half of the United States. This condition of affairs was recognized by all as merely transient, and no great injury seems to have resulted. In reality it amounted to a postponement of inspections into another fiscal year, and it is gratifying to state that they are at this time well under way. I venture to say that a year hence this Department will have accomplished all imposed upon it by law, orders, and regulations.

MILITARY COLLEGES.

The year just closed witnessed another stride in the dissemination of military knowledge by officers of the Army and evidences the progressive spirit of our institutions of learning. There are now 104 colleges—an increase of 6 over the number reported at the close of the preceding year—at which military science and tactics formed a prominent feature of the curriculum. At 4 colleges the military department was discontinued near the beginning of the scholastic year, at 4 others it was

reopened after a temporary interruption, and at 6 it was organized for the first time. Changes of this nature are influenced by a variety of circumstances and are hardly avoidable, but nevertheless there is a constant gain in the number of institutions favorable to military instruction and discipline, and this year's results show a great improvement over the work previously accomplished during any similar period.

The summary here presented may hardly convey an adequate conception of the good accomplished by the Government in fostering military instruction. The colleges deserve all the aid now given them, and the military professors generally deserve credit for their devotion to their duties and the results attained. The young students show a marked aptitude for military instruction and manifest considerable interest in the various drills and exercises, and the lessons impressed upon their receptive minds are sure to remain and serve them and the nation well in the future.

Inspections. During the year every institution having an army officer as military professor was visited by an inspector, though at one time it looked as if this important duty would suffer. One of the officers lately on duty in this department, who has bestowed much attention upon educational institutions, remarks that "the careful and discriminating inspections of these institutions by officers of the Inspector-General's Department, who so fully understood their needs, difficulties, and surroundings, contributed in no small degree to the progress and popularity of these military departments."

The beneficial influence of uniform, systematic, and well-conducted inspections upon the military departments of these colleges can hardly be adequately expressed; but it is the consensus of opinions of college presidents as well as military professors that they are of vital importance to efficiency and progress. The inspection of these institutions was originally ordered in 1886 at the suggestion of the Inspector-General, and the first was made in 1887. Since then the number of colleges at which military instruction is given has nearly trebled.

Military professors. In addition to the 100 officers of the Army authorized and detailed under the act of November 3, 1893, there were 4 retired officers so detailed under the same act as amended by the act of August 6, 1894. At the close of the previous year there were no retired officers performing this duty. The details from the active list are represented by 21 officers of the cavalry, 14 of the artillery, and 65 of the infantry, and average 2.5 per regiment. In the artillery 50 per cent of the details have been taken from one regiment (the Fifth), while the Second is not represented at all. In the cavalry the combined details of the Eighth and Tenth regiments form over 50 per cent of the whole, and the Fourth and Fifth have no details. In the infantry the contrast is less marked; here the maximum number of officers taken from any one regiment does not exceed 5, and there is but one regiment (the Fifteenth) which furnished no military professor, though the proportion of infantry officers is greater than that of the other two arms. In the former it is about 9 per cent and in the two latter about 6 per cent each. Seventeen of the military professors rank as captain—an increase of 6 over the number reported last year—and 83 as lieutenants. Six of these captains are cavalry and 11 are infantry officers.

The military professors are almost without exception members of the faculty in full standing and the highest in command in their department. They are generally fairly well supported in their work by the college authorities, though in some instances they meet with antagonism from

professors, who seem to think that military instruction is not germane to the education of their particular class of students or possibly that the officer in extending his department encroaches upon their time or prerogatives. At over 33 per cent of the colleges the military professors have creditably instructed in other branches than their own, and, as an instance of the officers' zeal and energy, it may be pertinent to state that many performed this extra work without pecuniary consideration. Some went even a step further by devoting spare moments to giving instructive lectures to the National Guard. Nearly all deserve and have earned the approbation of the college authorities for their painstaking efforts in making the military departments popular and successful; the importance of the duty is recognized, and the effort to bring it to the highest practicable standard is evident upon all sides. With such possibilities before it, the standard can hardly be set too high.

During the past year there were 30 changes in the details of military professors, and 74 continued on this duty throughout the year. It has been reported that college authorities are averse to frequent changes of military instructors. This difficulty has been partially remedied by extending the tours to four years, though a change of instructors not infrequently implies a change of existing methods. On this subject Colonel Hughes remarks:

In one or two instances where new details to fill the chair of military science and tactics have been made, the showing is not so good as it was. The falling off may be attributable to the want of previous experience in professors. In casting about for an explanation it became evident that time was lost in getting under way, and that no well-understood plan was established to work by, and previous methods were not followed, but each officer pursues his own. I find a strong inclination in new details to change the existing order of things and introduce novelties. In one or two instances this has been carried to the extent of changing the uniform as well as the organization. I am inclined to think that some plan should be adopted for checking too frequent changes. It is certain that organizations are now existing that should not have been created.

The college authorities do not as a rule fully understand the military department, and in some instances do not feel much interest in it, and the natural consequence is that the military professor is left to his own devices.

No records of work done here are kept at any of these institutions in a complete and satisfactory way. It certainly would be good policy to require each military professor to keep a professor's record, as our medical officers keep a post record, in which a record of the daily work should be made, and also a syllabus of all lectures delivered. As matters now stand the office is simply a blank when the new incumbent enters it, and he has no record of precedents or anything else to guide him. With a continuous record of past experiments and their results, a repetition of mistakes might be avoided.

The new officer, therefore, not only seems to have no records to guide him, but it often happens that he is ordered to report at the institution on the day on which his predecessor is relieved. Would it not be well to have him always report one or two weeks earlier, as has been done in exceptional cases, that he may get the full benefit of the experience of his predecessor? It is also noted that numerous requests are being received from military professors, especially those recently detailed, for the latest reports of inspection of these institutions. They contain many suggestions exceedingly useful to an officer performing this duty, and the advisability of again printing and distributing them, as heretofore, is submitted for consideration.

The enrollment of male students at the 104 colleges under discussion is but little short of 39,000, or over 5,000 more than reported last year; and fully 50 per cent of this number, or 19,564, were enrolled in the military departments—sufficient to form over 37 regiments of infantry. Fifty-six insti-

Students.

tutions report a gain in their military departments. These figures may possibly indicate the popularity of the military feature and its beneficial influence upon these colleges. The following table, compiled from previous reports, shows their development for the past five years:

Year.	Number of colleges.	Male students at colleges.		Students enrolled in military departments.	
		Number.	Average per college.	Number.	Average per college.
1891	53	12, 218	231	7, 002	134
1892	79	19, 330	245	10, 257	130
1893	84	28, 383	338	15, 010	179
1894	96	33, 437	348	16, 889	176
1895	104	38, 718	372	19, 564	188

Can anything be more conclusive of the constant and healthy growth of our educational institutions and the benefits the department is bestowing by its system of military instruction? The slight falling off in the average number of students under military instruction for the years 1892 and 1894 may readily be traced to the increase in details and consequent incipient state of some of the military departments. About 40 per cent of the cadets have received military instruction for at least one year and over 30 per cent for two or more years. Whatever the pursuit of these intelligent young men, the military training and discipline of their youth will aid them in pushing their inclinations to a successful end, and the Government will reap the benefit of its policy when danger threatens its safety. Many of these cadets have chosen a military career, but it is hardly possible to obtain accurate data in this respect, though 23 colleges report more or less of their graduates as holding commissions in the Army, and 32 report their former students are represented in the National Guard.

The publication in the Army Register of the names of 3 students from each college who stood highest in the military department at the last commencement is much appreciated everywhere and has created a healthy rivalry for the distinguished honor, though some of the institutions with large and excellent military departments seem to feel that they should have a better representation in the Register than the smaller institutions. According to the last reports there were 24 colleges having less than 100 military students each, 47 having between 100 and 200, 16 between 200 and 300, and 17 over 300. Perhaps selecting 2 names from the first hundred students and an additional name from each additional hundred or fraction thereof, might be a fairer method than publishing 3 from every college, whether it has 50 or 500 students under military instruction. Every encouragement should be given these young men to seek entrance into the Army; they deserve it, and will be an honor to it in whatever rank they may serve.

College military organizations. The cadets as a whole form 292 companies, 20 artillery detachments, 9 signal squads, 49 bands or drum corps, and several unassigned squads for purposes of preliminary instruction. At all but 17 colleges, which have but 1 company each, battalions have been organized. These organizations are scattered over a large portion of the United States, capable of developing into a powerful auxiliary in time of danger. With few exceptions, they carry the national flag; some carry the college flag in addition, or alone. The national flag is also displayed at many institutions from the

main building or flagstaff on the college campus. As an example of the patriotism and spirit of the students it may be stated that at one or two of the institutions the graduating class presented the college with a fine flagstaff and flag, the ceremonies of which formed an interesting feature of the commencement exercises; and at several colleges the authorities erected fine flagstaffs during the year.

The cadets are reported as generally observing due respect and military courtesy to their superiors, and very few infractions of discipline occurred. At 22 colleges the discipline is reported as purely military, at 48 it is civil, and at the remaining both civil and military, though it is often hardly practicable to draw a dividing line between the two. At institutions where the cadets are provided with dormitories they are generally required to march to meals and exercises. Nothing is more conducive to the decorous conduct and disciplined appearance of the cadets than these marching formations.

The military organizations of 7 colleges form part of the National Guard of their respective States, and at another college the State code provides for the organization, though it is not part of the State guard. In some other States the governors have been authorized by law to confer brevet commissions upon graduates from the military departments. The following is a copy of a recent State law that may be worthy of emulation:

AN ACT in relation to the college cadets of the Colorado Agricultural College and to repeal all laws in conflict therewith.

Be it enacted by the general assembly of the State of Colorado:

SECTION I. That for the purpose of further carrying out the provisions of the act of Congress approved July 2, 1862, in relation to agricultural colleges, the military body known as the Agricultural College Cadets of the Colorado Agricultural College is hereby organized as an auxiliary branch of the Colorado National Guard, placed upon the same footing as regards arms, ammunition, clothing, camp and garrison equipage as the Colorado National Guard.

SEC. II. The proper officers of said Colorado National Guard are hereby authorized and directed to honor the requisitions of the commanding officer of said Agricultural College cadets, under such rules and regulations as may hereafter be prescribed by the State military board and the State board of agriculture, when countersigned by the president of said college, for ten rounds of ammunition per year for each member of said military body and for such camp and garrison equipage as may be necessary for the proper instruction of said body in all that pertains to the practical duties of soldiers in camp.

SEC. III. The cadets of the State Agricultural College shall be attached to the Colorado National Guard under such rules and regulations as may hereafter be prescribed by the State military board and the State board of agriculture.

Approved, April 9, 1895.

The touch of elbow between these cadet organizations and the National Guard is already established, as evidenced by these beneficial laws and the substantial aid some twenty or more colleges have received from their State government; and any further assistance the General Government can give these institutions is a safe and wise investment.

The question of uniforms has been and still seems to be a perplexing one with some colleges, and the number of cadets at some 21 colleges without this soldierly requirement indicates an unsettled condition. The cost is a great consideration, especially with students at some of the Western colleges, whose time is divided between college work during part of the year and field work on the home farm during the remainder. The simplest uniform is of importance to military organizations, and some colleges have substituted the fatigue uniform for the full dress, which does not seem to be within the reach of all. At one college the question of expenses has partially been met by having the uniforms for the entire freshman

Uniforms.

class, numbering 225, made under contract, resulting in neat-fitting, well-made suits of uniform color and pattern at greatly reduced figures. A limited number of colleges have been generously assisted by their State authorities in this respect by liberal appropriations for the purchase of uniforms, erection of drill halls, armories, and gymnasias, by the loan of arms, tents, and other camp equipage, or by allowing the use of militia armories. Appropriations by the legislature of a State for the military department of the colleges have indicated the special interest felt for these institutions.

Uniforms are required to be worn at all drills and military exercises, and it is the custom at many institutions that they shall be always worn, whether within the college grounds or without, and there is evidently a gradual improvement in this respect.

College arms and equipments. The colleges generally look to the War Department for their supply of arms and equipments, though considerable is purchased by the colleges themselves or furnished by the States. The reports received indicate that the Government has supplied 70 colleges with fieldpieces and 96 with the .45-caliber Springfield rifle and necessary equipments. Forty-four institutions have received sabers or swords, and 40 a limited amount of signal equipments. The prevailing type of fieldpieces issued is the old pattern 3-inch wrought-iron muzzle loader, but about 17 colleges have been equipped with the more modern 3.2-inch breechloaders, and one reports a Gatling gun on hand. With the exception of 4 pieces, all are reported in serviceable condition and generally well protected from the weather, though needing paint and other attention. Of the Springfield rifles, 70 are stated to be unserviceable and quite a number in poor condition. Over 63 per cent of the colleges have no armorer of any kind, and others have to rely upon one of the students or the janitor of the institution for this duty. In some cases the services of a retired soldier have been secured with highly satisfactory results.

One of the California colleges sent its arms at the close of the last school year to the Benicia Arsenal for safe-keeping, recognizing the necessity of looking well to the safety of such arms. The need of an armory and drill hall and of additional rifles and signal equipments has been expressed by several colleges.

Military course. Each year the importance of military instruction receives better recognition, and the number of colleges which now make proficiency in the military department necessary for a diploma and allow the same credit for military studies as for other class work has increased to over 50. The military course is generally catalogued and published, and consists of theoretical and practical work, the scope and nature being left in a large measure to the military professor, who endeavors to adapt them to the capacity and opportunities of the students under his instruction. The mature student at a first-class university needs and does receive higher instruction than the boy at a preparatory school. The one can grasp perhaps the greatest problems of military science; the other can merely recite from the drill book, though both may be equally benefited by a systematic course of practical training. Age is not always a criterion of excellence in practical work, as shown by the fact that the youngest member in one of the cadet battalions won the prize for the best drill.

At 23 institutions essays were prepared by the students; at 27 campaigns were studied, and at 92 they were given lectures on appropriate subjects by the military professors. Over 66 per cent of the colleges have military literature in their libraries. Many, however, are

but scantily provided and might possibly be greatly benefited by opening the doors of the War Department library to them or extending to them the advantages of the military information division.

As a rule, the military professors seem to agree that they could accomplish better results if their department were placed upon the same footing with the others and if they were given more time for their work, though the need of compulsory enrollment and attendance and the want of suitable text-books and army blanks are felt at a number of colleges. At one or two the military professors have been requested by the authorities to prepare a text-book, and at a number of others they have prepared a set of rules and regulations for the guidance of the cadets. Of course it is readily understood that the best results are obtained where all work in harmony in the same direction and the students are given proper encouragement.

It is suggested that a board, composed of officers who have had experience with the matter of military instruction at civil institutions of learning, be convened to devise a scheme of instruction elastic enough to be applicable to all classes of civil schools and at the same time insure the greatest uniformity practicable.

At one college a cadet officers' lyceum was organized during the year, which held meetings once a month and created so much interest that the officers have about concluded to continue it during the next year. Some of the military essays prepared at these institutions deserve marked commendation, and the combined camps and contests between neighboring institutions have incited commendable emulation.

Practical work. The extent and kind of practical work, like that of theoretical instruction, depend largely upon circumstances. While the latter keeps pace with the advance of the student, the former is limited by the facilities for such exercises and varies from the manual of arms and company drills to the evolutions of the battalion in extended order and the solution of problems in minor tactics. There are 7 colleges that practically have no drill ground, and 2 of them are even without adequate provision for indoor work. At others the size of the drill ground is limited, and over 50 per cent report the facilities for indoor exercises inadequate. But, notwithstanding these drawbacks, there has been a marked improvement during the past year. The number of drills, including cavalry, artillery, infantry, and signal, range slightly less than 50 at some of the institutions, whose military departments have hardly had time for a good start, to over 300 at others. But the excellent quality of the personnel and the intelligence and spirit and adaptability of the students, and short exercises of even a very few minutes, make up for many shortcomings in the number of drills.

At over 50 colleges competitive drills were held between their cadet companies for the honor of carrying the colors, for position in the battalion, for medals, cups, and various other prizes; and at 7 colleges the cadets have engaged in competitive drills with military organizations at other places. There can be no question as to the beneficial effect of such competitions. At 85 per cent of the colleges the cadets were exercised in extended order, ranging from platoon to battalion evolutions, and at 23 per cent they were given opportunities for the practical solution of problems in minor tactics, while at a few others this feature was confined to the theoretical solution in the class room on account of limited outdoor facilities. How important this is for giving an insight into historical and military questions or as a preliminary instruction for any military emergency is recognized by every civilized military nation.

Target practice. Target practice is reported at 56 institutions—an increase of 15 over the number reported the previous year—supplemented at nearly all by position and aiming drills or gallery practice; and excellent results were obtained. Artillery practice has not been held, though at 12 colleges the artillery drills have been made more instructive by the firing of blank cartridges. Some of the military professors seem to be in need of a more thorough equipment of their small-arms target ranges; and one or two officers suggest that colleges be furnished with the bench reloading tools rendered obsolete by the adoption of the new magazine rifle, instead of the hand reloading tools now issued to them. The issue of at least one of these new rifles to each college for purposes of instruction may be worthy of consideration.

Field exercises. Practice marches were made to some extent by the organizations of 30 colleges, the longest march made in one day being 17 miles; and the cadets of 18 colleges went into camp during the year, some devoting over two weeks to this important feature. Instruction in fieldwork and the routine service of camp life are of much practical value, and the students appreciate the benefits of encampments, as shown by their readiness to meet the necessary expenses. One of the military professors, who succeeded in defraying the expenses of an encampment, reports:

As camp drew toward a close the cadets begged to remain another week, but as I had promised the college authorities to return, I did so on the seventh day. Tents were struck and allowed to fall together by drum taps, as done at West Point. I consider the one week in camp to have done more for my military department than the preceding two years of routine work.

Tents were usually borrowed from the State. But this may not always be practicable, and it is believed that if the Government could meet the colleges halfway in the matter of tents and other camp equipage it would result in a large increase of encampments. As it stands now, some of these institutions have expressed a desire to purchase tents from the Government. The encampment of one of the battalions was visited by the governor and adjutant-general of the State—a feature that aided greatly in making the affair interesting and successful. Another college had its tents pitched on the parade ground and gave the students there the benefit of six days' experience of camp life.

Ceremonies. Including the 18 colleges holding encampments, there were 54 at which a guard was maintained or mounted during the year, and the cadets at 42 have performed the duties of sentinel. At a number of colleges the maintenance of a guard formed a feature of the routine duties, and at nearly all, dress parades, reviews, and inspections were frequently held.

DISBURSEMENTS.

The reports of inspections of the accounts of disbursing officers of the Army and others required by law under the supervision of the Secretary of War, made during the fiscal year ended June 30, 1895, have been summarized and show the following:

Balances taken up		\$4, 095, 385. 66
Receipts from Treasury	\$55, 039, 559. 53	
Receipts from sales and other sources	2, 317, 872. 58	
		57, 357, 432. 11
Transfers from other officers		14, 666, 383. 28
		76, 119, 201. 05
Total to be accounted for		
Disbursements	\$57, 561, 200. 68	
Deposited to credit Treasurer of the United States	1, 339, 647. 21	
		58, 900, 847. 89
Transferred to other officers	12, 036, 795. 66	
		70, 937, 643. 55
		5, 181, 557. 50
Balance to be accounted for		
Excess on hand, National Home accounts		51. 71
		5, 181, 609. 21
Balance reported		
Distributed as follows:		
United States Treasury	\$3, 675, 747. 22	
United States depositories	1, 181, 745. 83	
Cash on hand	324, 116. 16	
		5, 181, 609. 21

The disbursements inspected during the fiscal years 1894 and 1895 may be grouped thus:

	1894.	1895.
Army disbursements	\$29, 943, 766. 34	\$28, 632, 335. 86
River and harbor disbursements	18, 777, 043. 89	21, 455, 330. 44
Other civil disbursements	1, 122, 131. 48	7, 473, 534. 38
Total	49, 842, 941. 71	57, 561, 200. 68

The above statement shows an increase of \$7,718,258.97 over the amount inspected during the previous year, arising as follows:

Increased disbursements:		
Adjutant-General's Department		\$955. 96
Pay Department		584, 155. 01
Engineer Department		2, 678, 286. 55
Recruiting officers		53, 524. 90
National Home for Disabled Volunteer Soldiers		3, 089, 312. 14
Miscellaneous		3, 189, 594. 40
Total		9, 595, 828. 96
Decreased disbursements:		
Judge-Advocate-General's Department	\$277. 17	
Quartermaster-General's Department	598, 247. 77	
Subsistence Department	253, 101. 82	
Ordnance Department	670, 037. 91	
Medical Department	355, 905. 32	
		1, 877, 569. 99
Net increase		7, 718, 258. 97

Included in the amount of increased inspections of disbursements are as follows:

United States Soldiers' Home accounts	\$376, 185. 29	
National Soldiers' Home accounts	3, 978, 663. 00	
Disbursing clerk, War Department	3, 118, 686. 09	
		7, 473, 534. 38
Increase in army officers' disbursements inspected		244, 724. 59

The increase in the disbursements of the Pay Department appears to be due to the repeal by the act of February 12, 1895, of so much of the act of June 16, 1890, as provides that \$4 per month shall be retained from the pay of enlisted men.

An earnest and in the main a successful effort was made to reach all disbursements made by disbursing officers of the Army, though some accounts are yet withheld from the inspection required by law.

The relation during the two fiscal years between the total amount involved and the disbursements, transfers, deposits in the Treasury, and balances on hand may be stated thus:

	1894.	1895.
Disbursements	0. 760	0. 756
Transfers between officers.....	. 163	. 158
Deposits in general Treasury.....	. 015	. 018
Balance on hand.....	. 062	. 068

Although a decrease in the percentage of transfers between officers is noted, yet the decrease in the ratio of disbursements and increase in balance on hand would seem to indicate that the improvement noted in the management of funds during the previous year had not been maintained. It would seem as though the volume of transfers between officers should be further reduced. The more direct the disbursing officer is brought into contact with the source of his funds the less the labor involved and the less apparent necessity there will be for accumulating idle funds. The statement shows that in one department nearly 42 per cent of the amount sent from the Treasury was transferred from officer to officer, while in another, where the disbursements were 50 per cent more, the per cent of transfers was only 0.044. The peculiar exigencies of the service in some departments, as where the disbursing officer is frequently changed, may require that the funds be distributed by a chief officer, but that condition does not exist in all departments.

The per cent of final balances to the average monthly disbursements by army officers, which had shown a reduction from 186 per cent in 1891 to 89 per cent in 1894, was increased to nearly 103 per cent in 1895. The following table shows the variation of these percentages in the principal disbursing departments during five fiscal years:

Department.	Percentages.				
	1891.	1892.	1893.	1894.	1895.
Engineer.....	293	104	82	75	83
Ordnance	191	124	105	115	130
Quartermaster.....	130	53	120	135	179
Subsistence.....	102	99	89	73	119
Medical.....	82	102	186	83	131
Pay.....	57	48	90	66	83

The variation in some of the departments is very marked and can not be entirely traced to any unusual circumstances affecting the service of those departments.

The proportion of balances kept in personal possession by army disbursing officers remains about the same as during last year, approximating 0.007 of the whole amount. Possibly this is as low as the needs of the service will allow, but should not all post officers have the authority required by regulations to keep such funds as is now given by General Orders to the acting commissaries of subsistence?

The total number of inspections made, including statements under Army Regulations 967½, verified by the inspector, was as follows:

Accounts.	Officers.	Inspections.
General staff officers' accounts.....	235	588
Post staff officers' accounts.....	205	536
Other line officers' accounts.....	10	12
Soldiers' Home accounts.....	8	8
Disbursing clerk, War Department, account.....	1	1
Total	459	1,145

Average number of inspections for each staff officer..... 2.5
Average number of inspections for each post officer..... 2.6

Of the 1,145 inspections, involving \$76,119,201.05, it appears from the following tabulation that 776 inspections (including 207 accounts of post officers), involving \$72,309,338.74, were made by officers of this department, and 265 inspections (including 12 accounts of staff officers), involving \$1,306,269.41, were made by other officers.

Department.	Officers inspected.	Total.	
		Inspections.	Amount involved.
Adjutant-General.....	9	24	\$3,336.63
Judge-Advocate-General.....	6	7	150.67
Quartermaster-General:			
Staff.....	52	139	12,370,212.83
Post.....	99	249	849,604.00
Subsistence:			
Staff.....	24	63	2,162,998.99
Post.....	106	287	743,835.74
Medical.....	4	12	492,259.41
Pay.....	30	83	21,787,220.32
Engineer.....	66	168	23,997,954.48
Ordnance.....	34	69	4,503,197.31
Recruiting.....	9	12	88,809.61
National Home Disabled Volunteer Soldiers.....	7	7	4,792,908.05
Miscellaneous.....	13	25	4,376,712.92
Total	459	1,145	76,119,201.05

Department.	By officers of the Inspector-General's Department.		By other officers.		Under Army Regulations 967½.	
	No.	Amount.	No.	Amount.	No.	Amount.
Adjutant-General.....	24	\$3,336.63				
Judge Advocate-General.....	7	150.67				
Quartermaster-General:						
Staff.....	129	14,930,231.19	7	\$276,092.50	3	\$163,889.14
Post.....	95	294,963.65	120	464,164.98	34	90,475.46
Subsistence:						
Staff.....	60	2,109,443.99			3	53,555.00
Post.....	112	295,097.08	133	354,674.61	42	94,064.05
Medical.....	12	492,259.41				
Pay.....	79	21,508,715.34	3	203,244.17	1	25,260.81
Engineer.....	160	22,606,398.77			8	1,391,555.71
Ordnance.....	61	3,825,703.73			8	677,493.58
Recruiting.....	8	86,495.34	1	73.00	3	2,241.27
National Home Disabled Volunteer Soldiers.....	7	4,792,908.05				
Miscellaneous.....	22	4,368,634.89	1	8,020.15	2	57.88
Total	776	72,314,338.74	265	1,306,269.41	104	2,498,592.90

The variety in form of the vouchers for disbursements in the different departments may deserve attention. Why should not the same form of voucher that satisfies the Treasury Department for an expenditure of funds by one department suffice for a like expenditure by all other

departments? As all accounts relating to the business within the jurisdiction of the War Department are now, under the act of July 31, 1894, audited by the same Auditor, it would seem possible that the system of vouchers and accounting, as well as office records of receipts and expenditures, could be made more homogeneous and simple. Under the new Army Regulations the standard blank forms used in Army administration, with the notes and directions thereon, will have the force and effect of regulations. Would not economy and more stable administration with regard to these forms be obtained if their issue were assigned to one office in the War Department?

On the subject of inspections of disbursements and accounts, which seem to be occasionally misunderstood, Capt. J. M. Lee, whose recent tour of duty in this department was terminated this year, remarks:

The scope and purpose of these inspections bring under scrutiny, books, papers, and methods which can not be passed upon by examining officers in Washington. A brief résumé of the method pursued in my inspection of accounts will best illustrate this matter. I examined every bank statement; verified all receipts and deposits; compared the amounts on each voucher with the check stubs since the date of previous inspection; compared the monthly depository statement of checks paid with the check stubs, to see that the checks as paid by the depository were identical in amount and date with the check stubs, besides similar careful verification of the list of outstanding checks and prompt reference of same to the depository. Such an inspection absolutely insures the discovery of any erroneous or improper drawing of checks in favor of the payee. * * * In an experience of inspection duty at intervals since 1865 I have found that inspections have a decided tendency to stimulate clerks and other employees to a proper discharge of their duties. * * * I can not—though about quitting service in the Inspector-General's Department—concur in the spirit of any suggestion to discontinue these inspections.

SPECIAL CONTINGENT FUND, UNITED STATES MILITARY ACADEMY.

Under the act of May 1, 1888, all funds arising from the rent of the hotel on the Academy grounds, and other incidental sources, are made a special contingent fund; to be expended under the supervision of the Superintendent of the Academy, and he is required to account for the same annually, accompanied by proper vouchers, to the Secretary of War.

The accounts and vouchers for the fiscal year ended June 30, 1895, required by the above act have been received and audited by this office. They show that from July 1, 1894, to September 28, 1894, the receipts and disbursements were in charge of Capt. W. H. Miller, acting quartermaster, U. S. A., and from that date to June 30, 1895, in charge of Capt. J. B. Bellinger, acting quartermaster, U. S. A.

A summary of the accounts may be stated as follows:

July 1, 1894, balance on hand.....	\$2,455.96
Received:	
Rent of—	
Hotel.....	\$2,000.00
Post-office.....	150.00
Store.....	350.00
Stables.....	75.00
	<hr/>
	2,575.00
Sales of gas.....	4,816.78
Coke and tar.....	1,699.21
Gas fixtures.....	8.22
Junk.....	241.66
Ice.....	138.83
	<hr/>
	6,904.70
	<hr/>
	11,935.66
Disbursements.....	8,942.76
	<hr/>
June 30, 1895, balance on hand.....	2,992.90

A clearer understanding of the purposes for which this fund was used could be had if the vouchers showed the disposition made of all articles purchased and to what the service paid for was applied.

Analysis of disbursements from special contingent fund, United States Military Academy, for fiscal year ended June 30, 1895:

Labor (incidental)	\$66. 76
Ice tools.....	32. 30
Pay of acting drum major.....	81. 67
Garden and grounds.....	195. 25
Repairs to hotel.....	945. 35
Entertainment of visitors.....	58. 75
Gas works.....	6, 455. 46
Care of retiring rooms.....	200. 00
Printing and binding.....	5. 10
Newspapers and books.....	50. 85
Carpets.....	74. 40
Post and Sunday schools.....	69. 36
Furniture	32. 86
Electrical appliances.....	201. 06
Meter prover.....	95. 00
Machinery.....	223. 00
Travel expenses.....	8. 00
Hay	42. 52
Other items.....	105. 07
Total	8, 942. 76

DISBURSING CLERK, WAR DEPARTMENT.

This officer's accounts were inspected from July 1, 1893, to include November 30, 1894, and a special report made thereon under date of December 10, 1894.

The account was a very large one, involving \$3,228,791.27, of which \$3,118,686.08 was disbursements, \$66,254.91 surplus funds, and \$3,468.34 miscellaneous receipts deposited in the Treasury, leaving a balance of \$40,381.94 to be accounted for. This balance was ascertained to be on deposit, except \$2,375.06 cash on hand.

The regulations applied to disbursing officers of the Army in the matter of keeping funds in personal possession do not seem to apply to the disbursing clerk of the War Department, although the law seems equally applicable to both.

The accounts of this officer are rendered quarterly; and involving so large an amount, disbursed principally on monthly payments, would it not be in keeping with recent legislation looking to a closer accounting that his accounts should be rendered monthly, as contemplated by Revised Statutes, section 3622? It is found not only possible but advantageous to have the disbursing officers of the Army render their accounts monthly.

The subject of establishing a uniform rate of pay for the clerks and employees of the Department on the basis of one-twelfth of the annual rate for each month deserves consideration. Under the present method the monthly rate of pay is determined by the number of days in the quarter, a complex method that does not obtain among business people or elsewhere under the Government than in this class of civil accounts.

NATIONAL HOME FOR DISABLED VOLUNTEER SOLDIERS.

As required by the act of August 18, 1894, an inspection was made of the several Branch Homes of this institution by the Inspector-General in person, and a report in detail was submitted to the Secretary of War, under date of January 26, 1895. In this report attention was

called to the delay in the rendition of the accounts and other irregularities, due to the practice of not closing the accounts promptly on the last day of the period to which they are stated.

This has since been remedied, and the accounts are now received within the period allotted by law and all friction in that respect happily avoided. But it is believed that a further advantage would accrue if the accounts of the general treasurer were submitted monthly, a practice that now obtains with reference to all disbursing officers charged with large disbursements. This would seem entirely practicable, since the Branch treasurers now submit, as they are required to do by law, their accounts monthly to the general treasurer. During the quarter ended June 30, 1895, with a balance due from the previous quarter of \$388,686.40, funds to the amount of \$839,667.26 were sent to the general treasurer. As the funds are placed to his credit monthly, it is submitted that it would be better if each requisition should be accounted for before a subsequent amount is placed. This is believed to be the theory of the recent legislation providing for a new system of accounting for public funds.

For the first time since these accounts were assigned to this office it is possible to present a summary of the receipts and expenditures for a full fiscal year, as follows:

STATEMENT A.—*Receipts and disbursements.*

	Fiscal year—			Total.
	1893.	1894.	1895.	
<i>National Home funds.</i>				
Balance on hand July 1, 1894.....	\$954. 15	\$70, 690. 96	.....	\$71, 645. 11
Received from—				
Treasury .....	.....	.....	\$2, 124, 560. 88	2, 124, 560. 88
Posthumous fund, act August 18, 1894.....	.....	.....	152, 232. 63	152, 232. 63
Sales and other sources.....	212. 05	356. 15	103, 196. 75	103, 764. 95
Error in transfer Pacific Branch.....	.....	.....	5. 73	5. 73
Total	1, 166. 20	71, 047. 11	2, 379, 995. 99	2, 452, 209. 30
Accounted for as follows:				
Disbursements	219. 69	26, 191. 86	1, 988, 769. 37	2, 015, 180. 92
Deposited in Treasury as surplus.....	1. 00	25, 366. 00	.....	25, 367. 00
Total	220. 69	51, 557. 86	1, 988, 769. 37	2, 040, 547. 92
Balance on hand June 30, 1895.....	945. 51	19, 489. 25	391, 226. 02	411, 661. 38
Total	1, 166. 20	71, 047. 11	2, 379, 995. 99	2, 452, 209. 30
<i>State aid funds.</i>				
Balance on hand July 1, 1894.....	.....	96, 820. 88	.....	96, 820. 88
Received from Treasury.....	.....	50, 000. 00	527, 500. 00	577, 500. 00
Total .....	.....	146, 820. 88	527, 500. 00	674, 320. 88
Accounted for as follows:				
Disbursements .....	.....	146, 621. 35	523, 889. 00	670, 511. 04
Deposited in Treasury as surplus.....	.....	199. 53	.....	199. 53
Total .....	.....	146, 820. 88	523, 889. 00	670, 710. 57
Balance on hand June 30, 1895.....	.....	.....	3, 610. 31	3, 610. 31
Total .....	.....	.....	527, 500. 00	674, 320. 88

Under the act of August 18, 1894, the sum of \$152,232.63 was transferred from the "Posthumous fund" to the appropriation for "Current expenses" for the fiscal year, and of this sum \$123,058.74 was appropriated for disbursement, leaving a surplus of \$29,173.89 to be carried into the general Treasury. During the past fiscal year there was received

from the same source \$46,954.98, and paid out on the same account \$22,143.56, leaving a balance of \$24,811.40 to be added to the appropriation for the Branch Homes under "Current expenses," as follows:

Branch.	Amount received.	Amount expended.	Balance to current expenses.
Central.....	\$18, 151. 42	\$9, 556. 45	\$8, 594. 97
Northwestern.....	5, 682. 76	3, 335. 99	2, 346. 77
Eastern.....	4, 904. 85	2, 567. 92	2, 336. 93
Southern.....	10, 848. 73	2, 514. 66	8, 334. 07
Western.....	2, 633. 26	2, 751. 56	— 118. 30
Pacific.....	2, 963. 46	576. 25	2, 387. 21
Marion.....	1, 770. 50	840. 73	929. 77
Total.....	46, 954. 98	22, 143. 56	24, 811. 42

The excess of disbursements over the receipts from this source in the Western Branch was due to the payment of a large claim for \$1,163.20 due since October 10, 1892.

The economy resulting from the legislation relating to the "Posthumous fund" may be briefly stated as follows:

Amount available for disbursement, thus reducing the amount to be withdrawn from the Treasury.....	\$123, 058. 74
Surplus to be covered into the Treasury.....	29, 173. 89
Excess of receipts over disbursements during the fiscal year 1895.....	24, 811. 42
Total amount.....	177, 044. 05

For this amount the Government always stands responsible, but the advantage arising from the active use of so large a sum heretofore lying dormant is apparent.

At the close of the fiscal year there was in the hands of the disbursing officers and in transit to them, of funds pertaining to the appropriations for the use of the Home for the fiscal year 1895, \$391,226.62. As the average monthly disbursements were less than \$200,000, this sum might perhaps, under the instructions contained in Treasury circular of July 25, 1892, be more than sufficient to meet all accrued claims; but upon the request of the president of the Board of Managers the further sum of \$140,764.03 was placed to the credit of the general treasurer on account of the appropriation for the fiscal year.

The instructions of the Secretary of the Treasury in the circular referred to are in the interest of the public service. They are found to be practicable in the several disbursing branches of the service and there does not seem to be any adequate reason why they should not be equally observed by all. Carrying large balances of idle funds seems to be entirely unnecessary and does not answer any demand of good service, but rather hampers it.

The general character of the vouchers submitted shows much improvement and a proper desire to meet the rules and regulations laid down by the Treasury Department to govern the disbursement of public funds. A noticeable improvement is observed in the decrease of open-market purchases and a corresponding benefit obtained from contract purchases. While it is true that the cheapest goods in price are not always the most economical, yet the abstracts show that for standard articles the lowest bid is not always accepted, and in many cases the highest bid is accepted without any statement of the expediency of such action. It is suggested that to allow for a sufficient margin in the purchase of material and stores, more particularly subsistence stores, the contracts be so drawn as to permit the purchase of from 10 to 15 per cent more or less, as the service may demand.

The only return submitted to this department accounting for the large amount of public property scattered through the various Homes and at the depot is a certificate from the general treasurer that it is now on hand, except such as may have been necessarily consumed in the management of the Home, and such portions thereof as may have been sold. The property returns are not tested by any branch of the Executive Departments of the Government.

The returns at the Branch Homes, excluding the Pacific, from which the amount was not obtained, showed that the original cost of property condemned during the fiscal year was \$194,234.95, an average of \$13.31 for each man present during the year. The average per man at the Soldiers' Home near this city during the same period was 41 cents, and for the active Army it was \$20.43.

No vouchers or other returns are submitted relating to receipts or disbursements of funds other than those dependent upon Congressional appropriations, although the act of March 3, 1895, directs that "the managers of said Home shall, at the commencement of each quarter of the year, render to the Secretary of War an account of all their receipts and expenditures for the quarter immediately preceding," and again by the act of March 3, 1887, "all the expenditures of the said Home, including the expenses of the Board of Managers, shall be made subject to the general laws governing the disbursement of public moneys." The act of March 3, 1891, further provides that "all receipts by said Home, from whatever source, shall, in addition to the supervision now provided for, be reported to and supervised by the Secretary of War," and that of March 3, 1893, that "the Secretary of War shall hereafter exercise the same supervision over all receipts and disbursements on account of the Volunteer Soldiers' Home as he is required by law to apply to the accounts of disbursing officers of the Army." These enactments do not seem to exempt from the supervision of the Secretary of War any fund or funds that may be received from any source for the benefit of the Home.

The men who live at and those who manage the National Soldiers' Homes have served in the Army and are familiar with the benefits derived from the requirements and systematic methods of the War and Treasury Departments; and the effective supervision given to the Secretary of War by the act of March 3, 1875, and subsequently over these receipts and disbursements the same as over any others submitted to the War Department, which is always important, seems now to be fully inaugurated. We are glad to be of any possible service to these old soldiers, so the work has been done cheerfully; but it is not inconsiderable and it is one of that class of additions to the duties of this department which must always be thoroughly accepted and definite to be fully effective. How this duty should be maintained seems definitely and conclusively decided now; and all should willingly abide by the law.

APPROPRIATIONS.

The appropriation account for the various fiscal years may be summarized as follows:

STATEMENT B.—Appropriations.

	Fiscal year—			Total.
	1893.	1894.	1895.	
<i>National Home funds.</i>				
Balance in Treasury July 1, 1894.....	\$110, 724. 00	\$57, 603. 08	.....	\$168, 327. 08
Amount of appropriations.....	.....	.....	\$2, 324, 473. 00	2, 324, 473. 00
Unexpended balance deposited.....	1, 860. 98	92, 986. 71	.....	94, 847. 69
Total	112, 584. 98	150, 589. 79	2, 324, 473. 00	2, 587, 647. 77
Remitted to disbursing officers.....	.....	.....	2, 124, 560. 88	2, 124, 560. 88
Paid on Treasury statement.....	743. 10	100. 75	.....	843. 85
Covered into surplus fund.....	111, 841. 88	.....	.....	111, 841. 88
Total	112, 584. 98	100. 75	2, 124, 560. 88	2, 237, 246. 61
Balance in Treasury June 30, 1895.....	.....	150, 489. 04	199, 912. 12	350, 401. 16
Total	112, 584. 98	150, 589. 79	2, 324, 473. 00	2, 587, 647. 77
<i>State aid funds.</i>				
Balance in Treasury July 1, 1894.....	12, 638. 25	.....	.....	12, 638. 25
Amount of appropriations.....	.....	50, 000. 00	670, 000. 00	720, 000. 00
Total	12, 638. 25	50, 000. 00	670, 000. 00	732, 638. 25
Remitted to disbursing officers.....	.....	50, 000. 00	527, 500. 00	577, 500. 00
Covered into surplus fund.....	12, 638. 25	.....	.....	12, 638. 25
Total	12, 638. 25	50, 000. 00	527, 500. 00	590, 138. 25
Balance in Treasury July 1, 1895.....	.....	.....	142, 500. 00	142, 500. 00
Total	12, 638. 25	50, 000. 00	670, 000. 00	732, 638. 25

The following statement shows briefly the appropriations, the net disbursements, and balances unexpended relating to the several fiscal years involved, to include July 31, 1895.

	Fiscal year—		
	1893.	1894.	1895.
Appropriated	\$2, 617, 841. 27	\$2, 378, 563. 89	\$2, 324, 473. 00
Posthumous fund, 1894 .....	.....	.....	152, 232. 63
Posthumous fund, 1895 .....	.....	.....	24, 811. 42
Total.....	2, 617, 841. 27	2, 378, 563. 89	2, 501, 517. 05
Net disbursements	2, 505, 053. 88	2, 206, 206. 87	2, 097, 017. 62
Balance unexpended	112, 787. 39	172, 357. 02	404, 499. 43
Total.....	2, 617, 841. 27	2, 378, 563. 89	2, 501, 517. 05
In United States Treasury.....	111, 841. 88	152, 868. 33	199, 912. 12
In hands of treasurers National Home Disabled Volunteer Soldiers.....	945. 51	19, 488. 69	204, 587. 31
Total unexpended.....	112, 787. 39	172, 357. 02	404, 499. 43

The above appropriations included the following amounts for special construction:

Fiscal year—	
1893	\$207, 540
1894	None.
1895	94, 100

The supervision of these accounts was assigned to this office by order of the Secretary of War dated December 23, 1892. The above statement shows a steady decrease in the net disbursements, from \$2,505,053.88 for 1893 to \$2,206,206.87 for 1894, and to \$2,097,017.62 for 1895, and this notwithstanding a continued and steady increase in the population of the Home. The average membership in 1893 was 14,661; in 1894, 15,601. The average for 1895 has not yet been reported, but an increase may be expected, as it is stated that the Homes are crowded to their fullest capacity. The actual number reported present in the last report, received August 10, 1894, was 16,942. Of these, 235 were reported as sleeping on the floor. At two Homes only were there reported vacant beds in the barracks; 60 at the Northwestern and 13 at the Western. The average cost of maintenance per member is from 34 to 35 per cent less at these Homes than at the Soldiers' Home near this city, but the accounts of that Home are not subject to the general laws governing the disbursement of public money, nor are they submitted here for administrative action as are the accounts of the National Home.

SOLDIERS' HOME.

A special report of the inspection of the Soldiers' Home near this city, as required by law, was submitted March 25, 1895. This report was accompanied by tabular statements, showing in detail the receipts and disbursements on account of the Home and other information relating to its establishment, membership, and business methods. It was pleasing to note that the steady improvement in economy and management begun some years ago still continues and grows apace, and this, without detracting from but rather adding to the material comforts of these old soldiers; but the recreation room is not suitably located in the basement under the dining room. It is dingy, dark, and lacks ventilation. A more cheerful and attractive room would be appreciated and used. This should not be regarded as a minor point with men whose busy lives are but memories. It would show only proper consideration for these enfeebled veterans to inclose a covered way in glass between two of the important buildings, where some exercise could be obtained in winter.

The ample floor and air space in the dormitories is in marked contrast with the crowded condition of the Volunteer Homes. The average number present during the last year, ended September 30, 1894, was 733.75, a slight decrease from the previous year; and the average age of members present was 54.4, about three years younger than the average age at the Volunteer Homes.

The connection with the city water system has been of substantial benefit to the Home, and will make it possible to further increase the sanitary conditions and the efficiency of the fire service. The water tower seems hardly so graceful in design as those at several of the military posts.

The financial records were found in good condition, and balances verified. It is suggested that all payments, except pay roll, be paid by check and the tendency to keep cash on hand be restricted. Would not a low rate of interest on their undrawn pension money in the hands of the treasurer encourage the men to be less wasteful of their money and be of advantage to the discipline of the Home? A somewhat similar process was found to prevail at the Dayton Home. An unnecessarily large balance of pension money is apparently lying idle.

The balance of the permanent fund on hand September 30, 1894, was.	\$2, 574, 036. 79
Credit settlements to June 30, 1895	166, 337. 74
Total	2, 740, 374. 53
Withdrawn for current expenses	60, 000. 00
Balance June 30, 1895	2, 680, 374. 53

The decision of the Comptroller that all retained pay due enlisted men at date of desertion was forfeited to the Home added largely to its income. The recent legislation relating to retained pay will not probably materially affect this income for a year or more.

The annual expenditure for the Home last year was \$189,941.67, or exclusive of outside payments and for permanent improvements \$145,202.09.

The average cost for maintenance per capita was reduced from \$217.45 to \$197.89, and this without affecting the quantity or quality of the ration or clothing allowance; but this reduced cost is 45 per cent more than the reported cost at the Pacific Branch, the smallest of the National Volunteer Homes.

The list of articles purchased under contract has been much extended, and it is believed with substantial benefit to the Home. All staple articles are now purchased under contract.

The amount paid for services averages \$79.44 per member, and the ratio of employees to average membership is nearly 37 per cent, while at the Pacific Branch of the National Home the average is \$49.12½ per member, with a ratio of 28.7.

The disbursements at this Home are made under such rules and regulations only as the Board of Commissioners may establish. Probably an administrative supervision as of other similar accounts might produce as satisfactory results.

In addition to the membership supported at the Home, there was an average of 316 members who received outdoor relief in sums varying from \$8 to \$2 each per month. The average amount paid per year to each man was \$83.56, or over 58 per cent less than the average annual cost of maintaining a member at the Home. Much can be said in favor of this method of relief, as it reaches many cases that otherwise would either be a full charge upon the Home or be compelled to go without any aid. It permits the old soldier to remain with his family and friends, and may aid him in some degree to avoid the condition of entire dependence.

INSPECTIONS UNDER PARAGRAPH 955, ARMY REGULATIONS.

The annual inspections provided for in paragraph 955, Army Regulations, embracing the depots of the Quartermaster's, Commissary, and Medical departments, the recruiting rendezvous and stations, armories and arsenals, and national cemeteries, have been made during the year by officers of this department. The administration of affairs at the various establishments is reported to be in accordance with existing laws and regulations. The officials in charge are very generally commended for their zeal and efficiency, and the reports indicate that they are in hearty accord with the movement for the adoption of methods which will insure greater economy and efficiency and expedite the transaction of the public business with which they are specially charged.

The monthly salaries of civil employees at these Quartermaster depots range from \$150 for a chief clerk to \$35 for a messenger. There is practical uniformity in the rate

of compensation to civil employees performing clerical work, but this does not appear to extend to a class of laborers who are engaged on the same kind of work; for instance, the packers' salaries range from \$40 to \$75 per month, with intervening rates of \$54 and \$70.

The protection against fire and theft is reported to be satisfactory. The buildings and rooms, except in a few instances where minor repairs are needed, are reported in good condition and suitable for the purposes for which they are used.

In connection with the question of the most practical and economical disposition of unserviceable property, the following extract from the report of an inspection made by Lieut. Col. J. P. Sanger, inspector-general, is believed to be well worth repeating here. Lieutenant-Colonel Sanger says:

I respectfully recommend in the interest of economy, and as my duty requires, that hereafter all unserviceable property be disposed of or repaired wherever in use, or at the nearest suitable point, if to be sold; and that no more money be expended for the transportation of this kind of property. By using the skilled labor and materials to be found at the different military posts ordinary repairs can be made, and when public property has deteriorated beyond that point, it would be better on all accounts to dispose of it where it may be located. However, a practical solution of the question would be a comparison of the net proceeds of the sales of all unserviceable property received at the depot during the past five years, with the cost of its packing and transportation. Of course this should not include the clippings or any scrap arising from manufacturing.

The number of civil employees at these depots ranges
Subsistence depots. from 3 to 9, and their pay from \$35 to \$150 per month. The rates of pay are stated in all but one of the reports, and the latter figure represents the maximum monthly compensation at all but one of the depots, where it is reported as \$135. The reports indicate that the force of clerks employed at the various depots is not in excess of the number required for the proper and economical performance of the work to be done. A reduction of \$138.33 in the monthly pay roll at the depot at San Francisco, Cal., has been made during the year, and the officer in charge there states that the force is not sufficient and that "the clerks very frequently are obliged to work until midnight and on Sundays, and even then the returns can not be made out and forwarded within the time required by law."

An analysis of the ratio of maintenance to disbursements at the several subsistence depots appears to indicate that the interests of the public service in the direction of greater economy would be subserved by a reduction in their number. At Chicago, Ill., the amount of money expended in the purchase of supplies during the year was \$298,333.72, and the cost of maintaining the depot during the same period was about \$20,624.72, which makes the percentage of maintenance to disbursements a little less than 7. At Baltimore, Md., the disbursements on account of purchases during the year amounted to \$45,788.29, while the sum of \$7,376.04 was required during the same period to maintain the depot, or a little in excess of 16 per cent. Thus it will be seen that a comparison of the ratio of maintenance to disbursements at these two depots, which are selected as fairly representing the two extremes—one the maximum and the other the minimum amount of business transacted—is largely in favor of the station having the greater volume of business.

The location of subsistence depots appears to be convenient and desirable; the books and records are on hand, properly kept, and up to date, except indexing in one or two instances, and the buildings and rooms are in good condition and satisfactory, except at Omaha, Nebr., where the cellar is reported as not frost proof and has to be heated

during cold weather, and at the Army building in New York City, which was reported to be partially flooded.

There is a force of enlisted men on duty at all the ^{Armories and ar-} establishments from which reports have been received, ^{senals.} except San Antonio, Tex., and their number ranges from 10 at Fort Monroe, Va., to 64 at Rock Island, Ill. At arsenals where there is extensive manufacturing carried on there is a large force of civil employees, the greatest number so far as reported being at Rock Island, Ill., where the average per month is given as 550. The minimum salary of a civilian is reported as 90 cents and the maximum \$10 per day. The latter figure is exceptional and is reported from Benicia Arsenal, Cal., only, and is the daily rate of compensation to one civil engineer employed temporarily on the construction of the sewerage system.

The buildings are generally reported in good condition; a few of them are said to be in need of minor repairs. The necessity for a hospital building at Indianapolis, Ind., is reported, and at Rock Island, Ill., the inspector states that the hospital building is a relic of the civil war, is utterly unfit for hospital purposes, is in bad condition and not worth repairing, and should be replaced by a permanent brick or stone structure; but hospitals seem less needed at the arsenals than where soldiers are usually stationed. The police and sanitary condition of arsenals is reported from good to excellent. The protection against fire and theft appears to be ample and sufficient, except at Benicia Arsenal, Cal., where a greater quantity of fire hose is desirable.

Some difference of opinion exists as to the best system of accountability for materials used, and this difference can be illustrated by the following extract from a report of inspection made by Lieut. Col. J. P. Sanger:

A better system of accountability for the materials used in manufactures than the one which now prevails, would seem to be advisable. The system is good as far as it goes, but it does not go far enough. All materials, with but few minor exceptions, are purchased under contract and delivered from time to time as required. They are inspected when received at the arsenal, for quality and quantity, either by an officer or, if he be not available, by one of the shop foremen, in which case the observations are verified by the officer. As soon as the materials are delivered to the shops where used, and the purchase vouchers are signed, the materials are dropped from the return of the ordnance storekeeper and thereafter are accounted for only on a monthly report of the shop foreman, forwarded through the officer in charge to the commanding officer. Theoretically the amount of the finished product, ascertained by a daily report of manufactures, plus the scrap and waste, should account for the materials purchased. But I could not learn that a store's account was kept or that the amount of materials in the shops in process of manufacture was ever verified by an officer, or that the same was included in the annual inventory of the arsenal. A system of accountability at this arsenal more nearly approaching the systems observed by some of the great manufacturing establishments, under which materials are accounted for as such until they appear in the finished article, and the ratio between the amounts purchased, the scrap, and the waste, is frequently determined, and any material changes investigated, would result in a closer and more accurate account of the property involved. It is proper to state that the present system has been in vogue at the arsenal for many years.

Each of the four recruiting rendezvous has been ^{Recruiting service.} inspected during the past year. The officers and men on duty as instructors are reported to be competent and efficient and sufficient in number for the proper instruction of the recruits. The length of time that the recruits are kept at the different rendezvous varies somewhat: At Fort Sheridan, Ill., it is reported to average from 10 to 15 days; at Jefferson Barracks, Mo., 3 weeks; at Columbus Barracks, Ohio, 22 days. Recruits are forwarded to regiments from three to four times a month, in detachments of from 7 to 15 men.

An examination of the reports of inspection of recruiting stations shows that their affairs are administered in an able and efficient manner. Those who have been enlisted since the promulgation of General Orders, No. 30, Adjutant-General's Office, 1894, are reported to have been citizens of the United States, or had made legal declaration to become citizens, and the ability to speak, read, and write the English language is required of applicants of foreign birth. Fifteen thousand nine hundred and ten applications for enlistment have been made during the year at 15 stations, and 1,869 of this number, or about 11½ per cent, were accepted. Of those accepted, about 70 per cent were natives.

"General unfitness" is reported as the principal cause of the rejection of applicants, with "an imperfect knowledge of the English language" as a very close second. The number of rejections for the latter cause constitutes not quite 10 per cent of the whole number rejected. Among other principal causes may be mentioned the following, which are given in order of their predominance: Defective sight, lack of testimonials as to character, under size, under weight, and varicocoele. The number of persons applying for enlistment at the three stations in Chicago during the year was 8,311, which is in excess of 50 per cent of the whole number of applications; the percentage of rejections there is considerably above the average also. In Albany, N. Y., 50 per cent of the applicants were accepted; the next in order is Minneapolis, Minn., with 33 per cent, and the next St. Louis, Mo., with a fraction over 32 per cent. All others are considerably below these figures, and range from 4 at Boston, Mass., to 23 per cent at Cincinnati, Ohio. The inspector speaks very highly of the quality of recruits obtained at Indianapolis and Evansville, Ind.

The number of rooms occupied by the several stations varies from five to twelve, and the monthly rental ranges from \$41.50 to \$115. The locations are generally reported as suitable and desirable, and the rates for rent, heat, and light appear to be fair and reasonable, except at the following stations: At Boston, Mass., the inspector thinks that the rent paid for inferior accommodations—\$75 per month—is high, and that the expenditure is not justified by the results, only 60 recruits having been obtained there during the year. The building occupied at Cincinnati, Ohio, is said to be an old, primitive brick structure, of dingy and unattractive appearance, difficult to keep clean, in bad repair, and without modern means of lighting, and at Evansville, Ind., the inspector states that better accommodations could be obtained on a more frequented street.

The enlisted men on duty at these stations are, without exception, reported as properly instructed, competent and efficient, and sufficient in number for the proper performance of the duties required, except for the station at 427 South State street, Chicago, Ill., where the officer in charge says that another man is needed.

The recruit detachments are subsisted at an average cost of 56½ cents per diem per man. At Indianapolis, Ind., it is reported that the meals, other than dinners, are sometimes scanty; at Louisville, Ky., the food is not sufficient in quantity or satisfactory, though the contract is 4 cents higher this year than last; and at Springfield, Mass., the inspector states that the price, 75 cents per diem, seems high, but the accepted bid was the only one received.

Under the instructions of April 5, 1895, such of the national cemeteries as are along the routes of travel of the authorized tours will be inspected once in two

years by officers of this department. Twelve, or about one-seventh of the entire number, have been inspected during the past year, and, with one exception, these visits were made prior to the promulgation of the above-mentioned instructions.

The general condition of the cemeteries remains very much as reported last year. Wooden headboards are gradually being replaced by stone, though there appears to be some delay in this work at the Custer Battlefield National Cemetery, where the graves of 161 officers and men are reported to be without headstones.

SUPPLY DIVISION.

In compliance with verbal instructions from the Assistant Secretary of War, an inspection of the records and business methods of this division was made between the 21st and 27th of June, 1895, and a report submitted June 28, 1895.

No money is disbursed in this division, and its only money receipts are funds received from sales of condemned property sold at auction and from the sale of waste paper sold under contract. These receipts are turned over to the disbursing clerk of the War Department, by whom all bills contracted by the division, after approval, are paid.

The condition of business on June 25, 1895, was as follows:

Appropriated:

For stationery.....	\$35,000.00
For contingencies.....	55,000.00
For rent.....	6,400.00
Total	96,400.00

Expended:

For stationery.....	24,503.94
For contingencies:	
Stock.....	\$3,670.40
Services.....	5,182.67
Other items.....	24,583.92
	<u>33,436.99</u>
For rent.....	5,866.66
Total	63,807.59

Amount unexpended:

For stationery.....	10,496.06
For contingencies.....	21,563.01
For rent.....	533.34
Total	32,592.41

The amount received from sales at auction was \$1,162.82 and for waste paper \$541.99.

INSPECTION SERVICE.

Under the recent orders on the subject, the stated inspections of military posts, armories and arsenals, supply depots, and the disbursements and accounts of disbursing officers of the military establishment are made by six inspecting officers, who are required to accomplish this duty annually during three periodical tours of inspection. The orders also require that the shortest usually traveled and most economic route from point to point be taken, and that such ungarrisoned posts and national cemeteries as are along the route of travel be inspected once in two years.

The accompanying map illustrates the work to be accomplished by each inspecting officer during his principal tour of inspection and indicates the lines of travel and the limits beyond which he can not travel on duty without special instructions. The other two periodical tours, being a second and third visit to a limited number of the places shown, are necessarily confined within the limits of the main tour. Of course, inspections of unserviceable property, special reports and investigations, etc., which form no small amount of an inspector's duties, can hardly be graphically presented, though the illustration herewith submitted may be a fair indication of the division of work and the field assigned to each.

CLERICAL FORCE.

The clerical force of this office for the past fiscal year consisted of one clerk of class 4, two clerks of class 3, three clerks of class 2, two clerks of class 1, and one assistant messenger. They are efficient and zealous in the performance of their duties, and their record for attendance and application can not well be exceeded. It is believed that much benefit to the service would have resulted had a larger force been allowed.

Since the inspection districts were established all clerical work for the South Atlantic district has been performed by the clerks in this office. Each of the other districts has been allowed one clerk at \$1,100 and one messenger at \$720 per annum from the clerks and messengers formerly employed at the headquarters of the several departments. These clerks are charged with important duties, and the pay they now receive would hardly seem sufficient in view of the expense of living in the cities where they are stationed.

Respectfully submitted.

J. C. BRECKINRIDGE,
Inspector-General.

The SECRETARY OF WAR.

REPORT OF THE JUDGE-ADVOCATE-GENERAL.

R E P O R T

OF THE

JUDGE-ADVOCATE-GENERAL, U. S. A.

WAR DEPARTMENT,
JUDGE-ADVOCATE-GENERAL'S OFFICE,
Washington, D. C., September 24, 1895.

Hon. DANIEL S. LAMONT,
Secretary of War.

SIR: I have the honor to submit the annual report of the Judge-Advocate-General's Department for the year ending August 31, 1895.

Commissioned officers tried by general court-martial:	
Records reported upon and submitted to the Secretary of War for action of the President.....	4
Records received, revised, and recorded, not requiring the action of the President (convicted, 4; acquitted, 2).....	6
Cadets of the United States Military Academy tried by general court-martial:	
Records reported upon and submitted to the Secretary of War.....	1
Records received, revised, and recorded, not requiring further action (convicted, 1; acquitted, 1)	2
Enlisted men tried by general court-martial (convicted, 1,564; acquitted, 148).	1,712
Military convicts tried by general court-martial (convicted)	3
	<hr/>
Total trials by general court-martial.....	1,728
	<hr/> <hr/>
Trials by general court-martial:	
Year ending August 31, 1894.....	2,189
Year ending August 31, 1895.....	1,728
	<hr/>
Decrease.....	461

Number of convictions of different offences by general court-martial during the year ending August 31, 1895:

Sixteenth article of war:	
Selling ammunition.....	1
Seventeenth article of war:	
Losing clothing.....	43
Losing Government property.....	20
Selling clothing	18
Selling Government property.....	2
Twentieth article of war:	
Disrespect to commanding officer.....	6
Twenty-first article of war:	
Attempting to strike superior officer.....	1
Disobeying superior officer.....	57
Striking superior officer.....	1

Twenty-fourth article of war:	
Disobeying noncommissioned officer quelling a fray.....	3
Thirty-second article of war:	
Absence without leave.....	347
Thirty-third article of war:	
Failure to attend drill, roll call, etc.....	175
Thirty-fourth article of war:	
Being found one mile from camp without leave.....	2
Thirty-eighth article of war:	
Drunkenness on duty.....	132
Thirty-ninth article of war:	
Quitting post.....	48
Sleeping on post.....	36
Fortieth article of war:	
Quitting guard.....	34
Forty-seventh article of war:	
Desertion.....	255
Fifty-first article of war:	
Persuading to desert.....	2
Sixtieth article of war:	
Embezzlement.....	2
Frauds.....	1
Larceny.....	11
Selling Government property.....	3
Sixty-first article of war:	
Offence charged as "conduct unbecoming an officer and a gentleman"....	1
Sixty-second article of war:	
Absence without leave, not chargeable under the thirty-second article of war.....	24
Abusing public animal.....	6
Allowing prisoner to escape.....	10
Assault.....	32
Assault and battery.....	25
Assault with dangerous or deadly weapon.....	18
Assault with intent to commit rape.....	1
Assault with intent to kill.....	5
Breach of arrest.....	33
Burglary.....	1
Carrying concealed weapons.....	3
Committing a nuisance.....	9
Disobeying commissioned officer.....	13
Disobeying noncommissioned officer.....	77
Disobeying sentinel.....	6
Disposing of clothing.....	2
Disrespect to superior officer.....	23
Drunkenness.....	100
Drunk and disorderly.....	8
Drunkenness, etc., causing arrest, etc., by civil authorities.....	12
Embezzlement.....	2
Escaping from guard or arrest.....	7
False swearing.....	5
Fighting.....	21
Fraudulent enlistment.....	86
Indecent exposure of person.....	1
Insubordinate conduct toward noncommissioned officer.....	86
Larceny.....	69
Malingering.....	1
Mutinous conduct.....	1
Neglect of duty.....	63
Perjury.....	3
Resisting arrest.....	19
Robbery.....	1
Selling, losing, or wasting Government property.....	9
Uttering forged paper.....	2
Disorders, etc., charged as "conduct to the prejudice of good order and military discipline" (not included under previous heads).....	441

The following table shows the desertions, classified according to the limit of punishment prescribed in the executive order of the President, published in General Orders, No. 16, Headquarters of the Army, 1895:

	Num. ber.	Limit of confinement.
Surrendered:		<i>Months.</i>
After an absence of not more than 30 days.....	28	12
After an absence of more than 30 days.....	94	18
After an absence of more than 30 days and prior conviction considered.....	1	30
Apprehended:		
In service not more than 6 months at time of desertion.....	56	18
In service more than 6 months.....	76	30
Total number of desertions	255	.....
Average limit of confinement.....	.....	20.96—

Trials for desertion:	
Year ending August 31, 1894.....	518
Year ending August 31, 1895.....	255
Decrease.....	263

The number of trials by inferior courts-martial, the number resulting in acquittal, and the number of different men tried in the different departments are shown by the following table:

Department of—	Trials.			Acquit- tals.	Differ- ent men tried.
	Garri- son.	Sum- mary.	Total.		
California.....	11	918	929	19	613
Colorado.....	27	1,702	1,729	52	1,017
Columbia.....	11	727	738	22	442
East.....	27	964	991	40	584
Dakota.....	20	1,509	1,529	70	1,025
Missouri.....	48	2,321	2,369	85	1,350
Platte.....	47	1,327	1,374	41	832
Texas.....	16	894	910	27	597
At posts not in any of the above departments.....	* 33	395	428	17	248
Total.....	* 240	10,757	10,997	373	6,708

* Including 16 trials of prisoners confined in the Leavenworth Military Prison.

The number of trials by inferior courts-martial for the year ending August 31, 1894, was 15,086, as against 10,997 for the year covered by this report; showing a decrease of 4,089 cases.

The decrease in the number of trials for desertion (263) can not be taken as an indication of the improvement of the discipline of the Army so far as this offence is concerned, but is, no doubt, to be attributed to the fact that a larger proportion of deserters escape without capture than heretofore. This seems to be owing to the smallness of the reward for their apprehension. In a majority of cases it would not cover the expenses of capture and delivery. I believe it is the general opinion in the Army that the reward should be increased, and in one of the reports submitted herewith its increase to as much as one hundred dollars is recommended. But so large an increase carries with it another danger—the danger of perjury for the sake of the reward. Even when sixty dollars was the amount offered, cases came under my observation in which there was the strongest ground for suspicion that the civil officers making the arrests swore falsely, in order to fix the crime of desertion upon soldiers guilty of absence without leave only, thereby to obtain the reward. It is dangerous, therefore, to go to an extreme

in this direction. I think a middle course should be taken, so that expenses and somewhat more would be paid, but the temptation to perjury made as small as possible. If the old practice of leaving the determination of the amount of the reward to the Secretary of War should be restored, it could be regulated by him, as experience might prove to be best.

The statistical part of this report, as will be noticed, relates only to the administration of military justice, and, indeed, the report taken as a whole is almost entirely given up to that subject; yet, probably not more than one-half of the work of this office is devoted to it. The other half covers a great variety of subjects having no relation to the administration of justice in the Army and being, in fact, of a purely civil character. This is owing to the large amount of civil work and work appertaining to the Army but not to its government which our laws devolve upon the Secretary of War and upon the Army. The connection of the Judge-Advocate-General's Office with this work can not be described statistically, nor with definiteness. Perhaps the most definite statement that can be made in regard to it is that its most engrossing and important part is the preparation of opinions on legal questions in matters requiring the action of the Secretary of War or relating to the administration of military affairs. Drawing legal instruments is, however, an important part of it also.

Since my last annual report an order has been issued requiring bureaus of the War Department to transfer to this office the title papers of military reservations and all papers relating to easements and licenses on them, these papers having been formerly kept in four different bureaus. This transfer has been made, and the papers are now being sorted, arranged and carded; but the work is necessarily slow on account of the insufficiency of the clerical force of this office for the purpose. I think that when it is completed it will be found that bringing these papers together in one office is a good arrangement, conducing to the reliability of information and the saving of time in obtaining it. Indeed, these results have been to a considerable extent already attained by the work that has been done.

By an act of Congress, approved September 27, 1890, the President was authorized to fix the maximum limits of punishment for the offences for which the punishment is left by the Articles of War to the discretion of the court-martial, and this was done by an executive order dated February 26, 1891. In this way uniformity of punishment, which was the chief object of the legislation, was established in the Army, and the result was undoubtedly satisfactory. But in the course of the four years' trial which the code received certain defects were found to exist, the principal one being that adequate punishment could not be awarded under it for some of the most commonly occurring offences. To remedy these defects a new executive order has been issued. This order seems to meet the requirements of a uniform administration of justice in the Army, while at the same time allowing sufficient latitude of punishment, and it is, I believe, so regarded by all who are directly concerned with the maintenance of military discipline.

But I beg to call your attention to certain other matters which are in a less satisfactory condition, and stand in need of legislation. All of them are important, and I earnestly hope that the needed legislation may be recommended. The subjects are four in number, viz., the amendment of the summary court act, the subjection to the Articles of War of military prisoners discharged from the service and serving sentences of courts-martial, the empowerment of general courts-martial to compel

civilian witnesses to testify, and the punishment of crimes committed in places over which the United States has exclusive jurisdiction.

The summary court has proved to be a practical substitute for the garrison and regimental court-martial and has given satisfaction throughout the Army, but when the summary court act was passed we were making an experiment, and it is not surprising that in the course of the five years of this court's existence we have discovered that the system can be materially improved.

The summary court, under the act creating it, can exist only at posts where there is a "line officer second in rank," or at stations where only staff officers are on duty, or when but one commissioned officer is present with a command. But these do not cover all cases intended to be provided for. No provision is made for a command with which there are present a line officer (in command) and one or more staff officers—a detached command, for example, with one line officer and a surgeon. This is a serious omission, because under such circumstances it may be very important that there should be this means of enforcing discipline. Nor does the summary court act provide for a command under a staff officer, and with which there is one, and only one, line officer on duty. A further objection to the present system is that certain officers, "second in command" are designated by the statute as the summary court, and pursuant to this fixed designation they must hold the court whether fitted for the discharge of the duty or not. This is not a good arrangement or, at least, not the best that can be devised. A better one would be to leave the designation of the trial officer to the post or higher commander. This would have the advantage of covering every possible condition of a command as to the composition of its commissioned force, while at the same time giving commanding officers the opportunity of selecting officers fitted for the responsible duty.

Another change which I recommend in the summary court act has reference to the following clause:

That any enlisted man charged with an offence and brought before such summary court may, if he so desires, object to a hearing and determination of his case by such court and request a trial by court-martial, which request shall be granted as of right, and when the court is the accuser the case shall be heard and determined by the post commander or by the regimental or garrison court-martial.

My recommendation is that this clause be repealed, as its effect is to deprive the officer of a necessary disciplinary power. In the field or when a command is detached and the commanding officer is the only one present competent under the law to hold the summary court, and a garrison court-martial can not be convened—when, therefore, he stands most in need of this disciplinary power—he is rendered helpless by the opportunity which this provision of the summary court act gives to the troublesome soldier of evading trial and punishment by demanding a garrison court; that is, he is helpless unless he assumes the responsibility of enforcing discipline by punishing without the authority of law. But it is wrong to place him in the position of having to choose between these alternatives. It is, in fact, requiring him to choose between an unruly command and a civil liability. And there is no danger whatever in entrusting an officer, even when he is the accuser, with the limited amount of power of a summary court, the utmost extent of which is one month's confinement with loss of pay. There is no danger that the officer would abuse this power any more than there was formerly danger in the fact that under the law relating to garrison and regimental courts-martial the accuser could appoint the court. Moreover, officers are seldom the actual accusers in cases falling within the jurisdiction of summary courts. The actual accusers generally are the noncommis-

sioned officers who, being cognizant of the facts, report the delinquents. For these reasons I regard it as important that the clause of the summary court act which thus protects the insubordinate soldier should be repealed.

Another matter, to which I have referred as requiring legislation, is the subjection to the Articles of War of military prisoners discharged from the service and serving sentences of courts-martial. Under section 1361 of the Revised Statutes prisoners in confinement in the military prison at Fort Leavenworth under sentences of courts-martial were "liable to trial and punishment by courts-martial under the rules and Articles of War for offences committed during the said confinement." The constitutionality of this provision has recently received careful consideration at the hands of the honorable Amos M. Thayer, United States circuit judge, whose decision is of such importance in this connection that I attach it as an appendix to this report. It will be noticed that Judge Thayer discusses, among other things, the effect of a discharge from the service by sentence of court-martial when accompanied with the imposition of a term of confinement; explaining it in the following language:

A discharge executed under these circumstances and for such a purpose can not be said to have had the effect of severing his connection with the Army and of freeing him forthwith from all the restraints of military law. The discharge was no doubt operative to deprive him of pay and allowances but so long as he was held in custody under sentence of a court-martial, for the purpose of enforcing discipline and punishing him for desertion, he remained subject to military law which prevailed in the prison where he was confined, and subject also to the jurisdiction of a court-martial for all violations of such law committed while he was so held.

The military prison has now been discontinued, and military prisoners who have been discharged from the service by virtue of their sentences, but are held under military authority to serve terms of confinement, are now serving their terms at military posts. There is, however, no law which subjects them to the discipline of trial by court-martial under the Articles of War, and an important means of making confinement an effective military punishment is, therefore, lacking. To announce to the prisoner that, no matter what he may do, he can not have the term of his confinement extended is a direct encouragement to insubordination and must impair the effect of military imprisonment as an exemplary punishment. In order to remedy this evil it is very desirable that there should be legislation declaring that soldiers sentenced by court-martial to dishonorable discharge and confinement shall, until discharged from such confinement, remain subject to the Articles of War and other laws relating to the administration of military justice.

Another matter demanding legislative action is the helplessness of courts-martial when civilian witnesses refuse to testify. Heretofore, when this subject has been presented to Congress, what has been asked for has been the power for courts-martial to punish civilian witnesses for contempt, and there has been objection to legislation in that form. I believe it has never been distinctly pointed out that the power is wanted for the sole purpose of obtaining evidence. But that is in reality all that the power is required for—to obtain evidence and thereby prevent the failure of justice. Congress has supplied us with laws for the government of the Army, and these laws are intended to be sufficient to maintain a high standard of honor among the officers of the Army and to protect the property and other interests of the United States. It is of vital importance that the power necessary for these purposes should be vested in the general court-martial, and this necessary power includes the power to compel civilian witnesses to testify. Cases of

importance sometimes depend on it. A noticeable case has occurred within the year; an officer, who is still in the service, being by the powerlessness of the court-martial to obtain the necessary evidence from civilians enabled to escape the consequences of his repeated duplications of pay accounts. And an embezzlement of public funds might be covered up in the same way. The impotence of courts-martial in this respect is humiliating.

The draft of a provision relating to the subject, and which is now recommended for legislation, is in language which expressly limits the exercise of this power to the cases of civilian witnesses refusing to testify, and it is hoped that it will not appear objectionable in this form. It is as follows:

That when any civilian witness before a general court-martial shall be lawfully ordered by it to testify or to produce any document or other subject of evidence under his control, and shall refuse or wilfully fail to obey such order, the general court-martial shall have power to order such witness to be confined until he shall obey it, and such order of commitment shall be accepted and obeyed by the post commander to whom it is addressed, provided that the confinement shall not exceed six months, and that he may be sooner discharged by the authority appointing the court-martial or higher authority.

The foregoing three subjects, namely, the amendment of the summary court act, the subjection of discharged military prisoners to the jurisdiction of courts-martial, and the empowerment of general courts-martial to compel civilian witnesses to testify, have been included in one bill, the draft of which is appended. The propositions, substantially as in the draft, were submitted to the department commanders for their views and have met with their general approval. All except two favor the proposed designation of the trial officer of the summary court by the commanding officer of the post or higher authority, and one recommends that contumacious civilian witnesses be proceeded against by indictment in the civil courts. As to the last suggestion I have thought it best to retain the proposition to give to the general courts-martial themselves sufficient power for the purpose in view, believing that indictment and trial by civil court, even if not otherwise objectionable, would be, to say the least, too uncertain a procedure to accomplish what is intended. I believe that it would in reality prove quite inefficacious. A few other suggestions have been made by some of the department commanders, but the draft of a bill appended to this report substantially represents the views of the majority.

The fourth subject, as already stated, relates to the punishment of crimes committed in places over which the United States has exclusive jurisdiction. The military authorities are directly interested in this matter because many of these places are under military control.

Section 5391 of the Revised Statutes prescribes that—

If any offense be committed in any place which has been or may hereafter be ceded to and under the jurisdiction of the United States, which offense is not prohibited, or the punishment thereof is not specially provided for, by any law of the United States, such offense shall be liable to, and receive, the same punishment as the laws of the State in which such place is situated, now in force, provide for the like offense when committed within the jurisdiction of such State; and no subsequent repeal of any such State law shall affect any prosecution for such offense in any court of the United States.

In the case of *The United States v. Barnaby* (51 F. R., 20) Judge Knowles, discussing the section, says:

This statute has been construed by the Supreme Court in the case of *U. S. v. Paul*, 6 Pet., 141, and held to apply to State statutes punishing crimes which existed at the time of the passage of this statute. This decision has at no time been reversed or doubted by that court, and was a contemporaneous judicial construction of the same, and should be adhered to. Considering the language of the statute, (and I do not see

how any other conclusion could be reached,) Congress might be willing to adopt the laws of a State which existed at the time of the passage of a statute by it, but would hardly be willing beforehand to adopt all the criminal statutes a State might in future enact. A statute to this effect might be classed as delegating legislative authority, which is not proper. This statute was passed in 1825. But the construction contended for, namely, that it applied to any laws which might exist in any State, at any time when a place might be ceded by it to the United States, brings us to no different conclusion.

And in the case of *The United States v. Curran*, in the United States district court for the district of Colorado, in 1892, Judge Hallett held as follows:

The United States against William E. Curran and others is a prosecution for inciting a riot and committing an assault upon certain Chinamen on the reservation at Fort Logan.

This is alleged to be in violation of a law of the State, which is put in force by section 5391 of the Revised Statutes of the United States. This section was enacted first in 1825 and again in 1866, and it refers to the laws of States then existing. The act was so construed in *Paul's Case*, 6 Peters, 141 (U. S. Supreme Court).

As Colorado was not then a State in the Union, none of its laws were adopted or put in force by this act. This section will never be operative in Colorado to put in force the laws of the State in respect to crimes committed on Government reservation unless reenacted.

The motion to quash will be sustained.

Under this construction the only criminal law in force on a place under the exclusive jurisdiction of the United States is such criminal law of the United States as may be applicable, and, if it is a place jurisdiction over which has been ceded by a State existing in 1866, the laws of the State in force at that time. In the two cases cited the criminal laws of the State could not be enforced over the ceded territory because the State was not in existence at the time of the enactment of 1866, from which section 5391 of the Revised Statutes was taken. And in States which were in existence at that time the criminal laws adopted since can not, under the legislation as interpreted by the courts, be extended over such territory. So defective is the law that in the above-mentioned cases riot, aggravated assault, false imprisonment, and assault with intent to commit murder, committed on territory within the exclusive jurisdiction of the United States, were held to be unprovided for and unpunishable. That the law needs to be amended is evident, and to that end I submit the draft of a bill "to establish a criminal jurisdiction over places ceded to the United States for certain purposes." It is appended to this report, and the recommendation is made that it be brought to the attention of Congress. It is in substantially the same language as a bill favorably reported by the committee on the judiciary of the House of Representatives at the first session of the 53d Congress. It proposes to adopt for these places only the existing criminal laws of the States in which they are situated, and this will necessitate the reenactment of the law from time to time; but it is all that can be done because, as was pointed out when this subject was before the 53d Congress, a law adopting in advance all the criminal laws of a State in force at the time of the commission of the criminal act would be, as to any such criminal legislation of a later date than the Federal enactment, a delegation of legislative power to the State and therefore inoperative.

The annual reports of the judge-advocates of departments are submitted herewith, and I have the honor to invite attention to them.

Very respectfully, your obedient servant,

G. NORMAN LIEBER,
Judge-Advocate-General, U. S. A.

DECISION OF JUDGE THAYER IN RE CRAIG.

EIGHTH CIRCUIT.

At chambers in the city of St. Louis, Mo.—Before Hon. Amos M. Thayer, United States circuit judge.—In the matter of the application in behalf of Edward Craig for a writ of habeas corpus.

Mr. H. D. Reeve for the petitioner.

Mr. W. C. Perry, United States attorney for the district of Kansas, opposing.

THAYER, circuit judge.

The application for a writ of habeas corpus in behalf of Edward Craig is not "signed by the person for whose relief it is intended," as section 754 of the Revised Statutes requires; neither does the petition for the writ affirmatively show that the application is made at his instance or request. This fact alone would justify a refusal of the writ, but, inasmuch as the application is probably made with the full knowledge of the prisoner, and as there is no reason to doubt that his signature to the petition could be readily obtained, I have deemed it expedient to overlook the defect and to consider the important question in the case, whether the military court-martial had jurisdiction of the offense for which Craig was tried and is now undergoing punishment.

The facts on which the decision of this question depends are not in dispute. Craig, it seems, was an enlisted soldier in the Army of the United States, and before his term of enlistment had expired, he deserted. For this offense he was apprehended and tried by a military court-martial and sentenced to dishonorable discharge from the service and to confinement at hard labor in the Leavenworth Military Prison for the term of two years and six months. While serving this sentence he assaulted the commandant of the prison, Capt. J. W. Pope, "with intent to kill," and was again tried by a court-martial for the latter offense, found guilty on his own plea to that effect, and was sentenced "to be confined at hard labor in such penitentiary as the reviewing authority may direct for the period of ten years." With the approval of the Secretary of War, and by his direction, the Kansas State Penitentiary, at Lansing, Kans., was designated as the place of confinement, and Craig is at present serving his term of imprisonment at that place.

It is contended by counsel that after the prisoner had been sentenced to be dishonorably discharged from the military service, and that part of the sentence for desertion had been executed by the issuance of a certificate of discharge, he was no longer subject to the jurisdiction of a military court-martial for any offense that he might thereafter commit, although committed while he was confined in the military prison at Fort Leavenworth in execution of the residue of the sentence for desertion. This claim is based on the first clause of Article V of the amendments to the Constitution, which declares: "No person shall be held to answer for a capital, or otherwise infamous crime, unless on a presentment or indictment of a grand jury, except in cases arising in the land or naval forces, or in the militia, when in actual service in time of war or public danger."

The Congress of the United States has taken a different view of the scope and effect of Article V of the amendments by declaring in "An act to provide for the establishment of a military prison and for its government," approved on March 3, 1873, "that all prisoners under confinement in said military prisons undergoing sentences of court-martial shall be liable to trial and punishment by courts-martial under the rules and articles of war for offenses committed during said confinement." (17 Stat., 584, ch. 249, sec. 12. See also 18 Stat., 48, ch. 186; and sec. 1361, Revised Statutes of the United States.)

The question at issue, therefore, is whether section 12 of the act of March 3, 1873, *supra*, is constitutional. It is a cardinal rule, in obedience to which *nisi prius* courts always act, that a law duly enacted by the legislative department of the Government will be upheld and enforced unless it is clearly repugnant to the organic law. If a reasonable doubt exists as to whether an act of Congress is constitutional or otherwise, the inferior courts of the United States will give effect to its provisions, until it has been declared to be void by the court of last resort.

It can not be said that by authorizing a trial by courts-martial of persons confined in the military prison established at Fort Leavenworth, for offenses committed while so confined, Congress has clearly or even probably exceeded its powers. The prison in question was designed as a place of punishment for those persons only who, while in the military service of the Government, either as enlisted men or otherwise, are guilty of offenses "against the rules, regulations and laws for the government of the Army of the United States." It is a part of our military establishment, as much as the guardhouse, with which our forts and military encampments are always provided. And, inasmuch as it was intended as a place of punishment for those who

are subject to military law and discipline, Congress provided, in substance, that the prison should be placed in charge of officers and enlisted men of the Army who were to be detailed for that duty by the Secretary of War. There can be no doubt of the fact that the prison was thus placed in charge of Army officers because it was regarded as a military institution, the same as a fort or an arsenal or a navy-yard, and for the purpose of subjecting persons who might be confined therein to military law and to the same discipline that is enforced in the army.

Much stress, however, is laid on the fact that when the offense for which Craig was tried and convicted was committed, he had been discharged from the Army and was no longer subject to military law or discipline. This contention overlooks the fact that the discharge was issued in part execution of a sentence which directed that he should not only be dishonorably discharged with the forfeiture of all pay and allowances, but that he should also be held and confined at hard labor for a given period in a military prison. A discharge executed under these circumstances and for such a purpose can not be said to have had the effect of severing his connection with the Army and of freeing him forthwith from all the restraints of military law. The discharge was no doubt operative to deprive him of pay and allowances but so long as he was held in custody under sentence of a court-martial, for the purpose of enforcing discipline and punishing him for desertion, he remained subject to military law which prevailed in the prison where he was confined, and subject also to the jurisdiction of a court-martial for all violations of such law committed while he was so held.

The views thus expressed are supported by an unreported opinion of Judge Foster, United States district judge for the district of Kansas, in the case of Ira Wildman, which was decided in the year 1876; also by an opinion of Attorney-General Devens (*Opinions of Attorneys General*, vol. 16, p. 292), and by an elaborate decision of Judge Sawyer in *re Bogart*, 2 Sawyer, 396; *Id.*, 3 Fed. Cases, No. 1596.

The application for writ of habeas corpus will accordingly be denied.

A BILL to amend an act entitled "An act to promote the administration of justice in the Army," approved October first, eighteen hundred and ninety, and for other purposes

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the act entitled "An act to promote the administration of justice in the Army," approved October first, eighteen hundred and ninety, be, and the same is hereby, amended so as to read as follows:

That in time of peace every enlisted man who is to be tried for an offence such as was prior to the passage of the act "to promote the administration of justice in the Army," approved October 1st, 1890, cognizable by a garrison or regimental court-martial, shall, within twenty-four hours from the time of his arrest, (unless he is to be tried before a general court-martial,) be brought before a summary court, which shall consist of an officer designated by the commanding officer of the post, station or command, or by superior authority as the summary court for such post, station or command, and when such designation shall be made by superior authority it shall supersede all other; and such officers shall have power to administer oaths and to hear and determine such cases, and when satisfied of the guilt of the accused, adjudge the punishment to be inflicted; which said punishment shall not exceed confinement at hard labor for one month and forfeiture of one month's pay: That there shall be a summary court record book kept at each military post and in the field at the headquarters of the command, in which shall be entered a record of all cases heard and determined, and the action had thereon, and no sentence adjudged by said summary court shall be executed until it shall have been approved by the post or other commander: *Provided*, That when but one commissioned officer is present with a command he shall hear and finally determine such cases: *And provided further*, That noncommissioned officers above the rank of corporal shall not, if they object thereto, be brought to trial before summary courts without the authority of the officer competent to order their trial by general court-martial, but shall in such case be brought to trial before garrison, regimental or general courts-martial, as the case may be.

SEC. 2. That the commanding officers authorized to approve the sentences of summary courts and superior authority shall have power to remit or mitigate the same.

SEC. 3. That post and other commanders shall, on the last day of each month, make a report to the department headquarters of the number of cases determined by summary court during the month, setting forth the offences committed and the penalties awarded, which reports shall be filed in the office of the judge-advocate of the department, and may be destroyed when no longer of use.

SEC. 4. That soldiers sentenced by court-martial to dishonorable discharge and confinement shall, until discharged from such confinement, remain subject to the Articles of War and other laws relating to the administration of military justice.

SEC. 5. That when any civilian witness before a general court-martial shall be lawfully ordered by it to testify or to produce any document or other subject of evidence under his control, and shall refuse or wilfully fail to obey such order, the general court-martial shall have power to order such witness to be confined until he shall obey it, and such order of commitment shall be accepted and obeyed by the post commander to whom it is addressed, provided that the confinement shall not exceed six months and that he may be sooner discharged by the authority appointing the court-martial or higher authority.

SEC. 6. That this act shall take effect sixty days after its passage.

A BILL to establish a criminal jurisdiction over places ceded to the United States for certain purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That when any offence is committed in any place jurisdiction over which has been retained by the United States, or ceded to it by a State, or which has been purchased with the consent of a State for the erection of a fort, magazine, arsenal, dockyard, or other needful building, the punishment for which offence is not provided for by any law of the United States, the person committing such offence shall, upon conviction in a circuit or district court of the United States for the district in which the offence was committed, be liable to and receive, the same punishment as the laws of the State in which such place is situated now provide for the like offence when committed within the jurisdiction of such State, and the said courts are hereby vested with jurisdiction for such purpose; and no subsequent repeal of any such State law shall affect any such prosecution.

REPORT OF COL. THOMAS F. BARR, ASSISTANT JUDGE-ADVOCATE-GENERAL, JUDGE-ADVOCATE DEPARTMENT OF THE EAST.

HEADQUARTERS DEPARTMENT OF THE EAST,
Judge-Advocate's Office, September 6, 1895.

To the JUDGE-ADVOCATE-GENERAL, UNITED STATES ARMY,
Washington, D. C.

SIR: In obedience to the provisions of par. 984, A. R., as amended by General Orders, No. 19, Headquarters of the Army, March 16, 1892, I have the honor to submit the following report of the business of this office for the period commencing September 1, 1894, and ending August 31, 1895:

Commissioned officers tried by general court-martial.....	4
Enlisted men tried by general court-martial (convicted, 467; acquitted, 46)	513
	<hr/>
Total trials by general court-martial.....	517
Trials by general court-martial:	
Year ending August 31, 1894	505
	<hr/>
Increase over last year	12
	<hr/>
Cases apparently brought before general court-martial with a view to discharge on proof of five or more previous convictions:	
Year ending August 31, 1894.....	110
Year ending August 31, 1895.....	144
	<hr/>
Increase over last year	34
	<hr/>
Trials for fraudulent enlistment alone:	
Year ending August 31, 1894.....	7
Year ending August 31, 1895.....	21
	<hr/>
Increase over last year	14
	<hr/>
Decrease of trials this year as compared with last, leaving out trials with a view to discharge on proof of prior convictions and trials for fraudulent enlistment.	36

Number of convictions of different offenses, taken from the records of trials by general courts-martial in the department during the year ending August 31, 1895:

Seventeenth article of war:	
Losing or selling clothing.....	29
Twentieth article of war:	
Disrespect to commanding officer.....	1
Twenty-first article of war:	
Striking superior officer.....	1
Disobeying superior officer.....	23
Thirty-second article of war:	
Absence without leave.....	102
Thirty-third article of war:	
Failure to attend drill, roll call, etc.....	48
Thirty-eighth article of war:	
Drunkenness on duty.....	45
Thirty-ninth article of war:	
Quitting post.....	13
Sleeping on post.....	10
Fortieth article of war:	
Quitting guard.....	8
Forty-seventh article of war:	
Desertion.....	111
Sixtieth article of war:	
Larceny.....	2
Sixty-second article of war:	
Absence without leave not chargeable under the thirty-second article of war.....	2
Assault.....	1
Assault and battery.....	2
Attempting to sell clothing.....	1
Breach of arrest.....	4
Disobeying commissioned officer.....	1
Disobeying noncommissioned officer.....	6
Disrespect to superior officer.....	2
Drunkenness.....	10
Fraudulent enlistment.....	29
Indecent exposure of person.....	1
Insubordinate to noncommissioned officer.....	1
Introducing liquor into post.....	1
Larceny.....	21
Neglect of duty.....	13
Permitting prisoners to escape.....	5
Disorders, etc., as "conduct to the prejudice of good order and military discipline" (not included under previous heads).....	173

The following table shows the desertions, classified according to the limit of punishment prescribed in the executive order of the President, published in General Orders, No. 21, Headquarters of the Army, 1891:

	Num-ber.	Limit of confine-ment.
Surrendered:		<i>Months.</i>
Within 30 days after desertion.....	2	3
After 30 days and within 90 days after desertion.....	7	6
After 90 days and having not more than 3 months' prior service.....	9	10
After 90 days and having more than 3 months' prior service.....	12	18
Apprehended:		
In service less than 3 months at time of desertion.....	8	12
In service 3 months or more, but less than 6 months.....	16	18
In service 6 months or more.....	18	30
Total number of desertions.....	72	.....
Average limit of confinement.....		17.75

The following table shows the desertions, classified according to the limit of punishment prescribed in the executive order of the President, published in General Orders, No. 16, Headquarters of the Army, 1895:

	Num-ber.	Limit of confine-ment.
Surrendered:		Months.
After an absence of not more than 30 days.....	6	12
After an absence of more than 30 days.....	16	18
Apprehended:		
In service not more than 6 months.....	4	16
In service more than 6 months.....	13	30
Total number of desertions.....	39	
Average limit of confinement.....		21.07+

Number of desertions classified under General Orders, No. 21, Headquarters of the Army, 1891.....	72
Number of desertions classified under General Orders, No. 16, Headquarters of the Army, 1895.....	39
Total.....	111

Trials for desertion:	
Year ending August 31, 1894.....	156
Year ending August 31, 1895.....	111

Decrease.....	45
Of the number brought to trial, 23 were of cases originating in other departments.	
Number of desertions in the department from July 1, 1893, to June 30, 1894.....	199
Number of desertions in the department from July 1, 1894, to June 30, 1895.....	310
Increase over last year,.....	111

The average enlisted strength, the number of trials by inferior courts-martial, the number resulting in acquittal, and the number of different men tried at the different posts in the department are shown by the following table:

Post.	Average enlisted strength.	Trials.			Acquit-tals.	Differ-ent men tried.	Remarks.
		Garri-son.	Sum-mary.	Total.			
Fort Adams, R. I.....	291	143	143	1	89	In camp at Fort McPherson, Ga., July and August. Trials for these months included in report of trials from McPherson.
Fort Barrancas, Fla.....	133	1	82	83	.....	45
Columbus Barracks, Ohio.	416	5	321	326	24	188	11 months in the depart-ment.
Fort Columbus, New York Harbor.	200	4	110	114	4	86	Includes trials for 11 months only.
Davids Island, New York Harbor.	231	1	122	123	1	72	
Fort Ethan Allen, Vt.....	229	16	186	202	10	104	11 months in the depart-ment.
Fort Hamilton, New York Harbor.	293	21	231	252	4	114	Abandoned Dec. 4, 1894.
Jackson Barracks, La.....	133	3	62	65	1	40	
Key West Barracks, Fla....	127	10	96	106	4	47	
Madison Barracks, N. Y....	508	.....	308	308	13	173
Fort McHenry, Md.....	197	13	121	134	4	72	
Fort McPherson, Ga.....	482	4	345	349	9	204	
Fort Monroe, Va.....	505	3	274	277	3	148	
Fort Myer, Va.....	260	.....	133	133	1	91
Mount Vernon Barracks, Ala.	137	.....	40	40	.....	32
Newport Barracks, Ky.....	65	.....	11	11	2	11
Fort Niagara, N. Y.....	216	2	146	148	1	91	Abandoned Nov. 10, 1894.
Fort Ontario, N. Y.....	62	10	10	1	8	Abandoned Nov. 20, 1894.

Post.	Average enlisted strength.	Trials.			Acquittals.	Different men tried.	Remarks.
		Garri-son.	Sum-mary.	Total.			
Plattsburg Barracks, N. Y	484	2	226	228	12	142	.
Fort Porter, N. Y.....	130	1	150	151	1	78	
Fort Preble, Me.....	68	.....	17	17	1	14
Fort Schuyler, New York Harbor.	131	1	33	34	.....	23
St. Francis Barracks, Fla..	156	3	90	93	2	57	
Fort Thomas, Ky	503	6	408	414	11	264	
Fort Trumbull, Conn.....	69	.....	38	38	.....	19
Fort Wadsworth, New York Harbor.	188	.....	129	129	3	70
Fort Warren, Mass.....	127	6	125	131	12	64	
Washington Barracks, D. C.	379	6	224	230	4	123	
Fort Wood, New York Harbor.	64	1	1	1	Abandoned Oct. 10, 1894.
Totals.....	6,784	108	4,182	4,290	129	2,470	

The number of trials by inferior courts for the period ending August 31, 1894, was 3,429, as against 4,290 for the year covered by this report, showing an increase of 861 cases this year as compared with the corresponding period last year.

In view of the increase of force in the department over that stationed within its limits during the preceding year, the showing now made is gratifying.

It will be perceived that while during the year there was a decrease of 45 in the number of cases of desertion tried, there was an increase in the crime of desertion of 111. The improved industrial condition of the country may be held to largely account for the increase. The small inducement to civil officers to exert themselves to arrest deserters, however, is, in my judgment, an important factor. With the chances for detection so reduced there is little to deter the dissatisfied soldier from criminally separating himself from the service.

The transfer of the buildings at Fort Leavenworth, Kans., heretofore used as a military prison, to the Department of Justice, and the necessary confinement of general prisoners discharged from the service, at military posts, raises a question of serious importance to discipline. Sentences to hard labor will at most posts be difficult of execution. That general prisoners should be used in policing the immediate post is not desirable. There is no more honorable service a soldier can perform than to keep his own camp clean. As without the construction of buildings no system of constructive labor is possible, I am of opinion that recourse should be had to the methods pursued in the British service, notably in the use of the shot drill, which would involve but trifling expense. It is severe enough toil to impress upon a prisoner the fact that he is undergoing punishment.

Respectfully,

THOMAS F. BARR,
Assistant Judge-Advocate-General, Judge-Advocate.

REPORT OF LIEUT. COL. J. W. CLOUS, DEPUTY JUDGE-ADVOCATE-GENERAL, JUDGE-ADVOCATE DEPARTMENT OF THE MISSOURI.

HEADQUARTERS DEPARTMENT OF THE MISSOURI,
OFFICE OF THE JUDGE-ADVOCATE,
Chicago, Ill., September 9, 1895.

To the JUDGE-ADVOCATE-GENERAL, Washington, D. C.

SIR: I have the honor to submit the annual report of the business of this office for the year ending August 31, 1895.

GENERAL COURTS-MARTIAL.

Commissioned officers tried*.....	2
Enlisted men tried.....	274
Number of acquittals	23
Number of discharges on citation of previous convictions.....	65

* These cases are published in General Orders, No. 14, 1894, Headquarters Department of the Missouri.

The offenses for which tried are as follows:

For violation of the—		For violation of the—	
Seventeenth article of war	9	Thirty-ninth article of war	10
Twenty-first article of war	11	Fortieth article of war	3
Thirty-second article of war	52	Forty-seventh article of war	63
Thirty-third article of war	33	Sixtieth article of war	1
Thirty-eighth article of war	12	Sixty-second article of war	140

INFERIOR COURTS.

The number of trials by inferior courts, the number of acquittals, and the number of different men tried are shown in the following table:

Garrison	48
Summary	2,321
Total	2,369
Acquittals	85
Different men tried	1,350

The following table gives the average enlisted strength and number of trials by general and inferior courts for the years named:

Year.	Average enlisted strength.	Trials by general courts-martial.	Trials by inferior courts-martial.	Per cent of trials by inferior courts-martial.
1891	3,004	225	1,958	65.18
1892	3,393	322	2,653	78.19
1893	3,308	296	2,140	64.69
1894	3,602	338	1,978	54.91
1895	3,689	274	2,369	64.21

DESERTIONS.

The number of desertions, the probable cause therefor, and the posts from which the desertions occurred are shown in the following tables:

Number of desertions and probable cause therefor as shown by boards of survey.

Probable cause.	The year of enlistment.					Total.
	1st.	2d.	3d.	4th.	5th.	
Cause unknown	31	15	5			51
General dissatisfaction	27	14	5		2	47
To avoid trial and punishment	11	5	9	1		26
Heavily in debt	4	8	3			15
Domestic troubles	2	2	2			6
Restless disposition	3	2				5
Persuaded by others	4	1				5
Enlisted with intent to get West	4					4
Probably did not intend to desert	1	1			1	3
Unsuited to the service	2	1				3
Thought to be professional repeaters	3					3
Fear of recognition as deserters	1	1	1			3
Worthless characters	1			1		2
To keep out of hands of civil authorities	1	1				2
Fear of horses	2					2
Relapsed victims of "Keeley cure"				1	1	2
Due to connection with a woman of the town		2				2
Thought had been treated unjustly	2					2
Irrepressible drunkard	1					1
Escaped while serving sentence		1				1
Enlisted for temporary relief	1					1
Temporary aberration of mind	1					1
Homesickness				1		1
Total	102	54	25	4	3	188

Average enlisted strength and desertions from posts.

Post.	Strength.	Desertions.	Per cent.
Fort Mackinac, Mich.....	25	0	0
Fort Supply, Okla.....	113	2	1.76
Fort Wayne, Mich.....	273	5	1.83
Fort Sill, Okla.....	412	8	1.94
Fort Reno, Okla.....	359	9	2.50
Fort Brady, Mich.....	224	8	3.57
Fort Leavenworth, Kans.....	729	34	4.66
Jefferson Barracks, Mo.....	188	9	4.68
Fort Sheridan, Ill.....	706	39	5.52
Fort Riley, Kans.....	715	74	10.34
Total.....	3,744	188	5.02

Respectfully submitted.

J. W. CLOUS,
Deputy Judge-Advocate-General, United States Army.

REPORT OF MAJ. E. H. CROWDER, JUDGE-ADVOCATE U. S. ARMY, JUDGE-ADVOCATE,
DEPARTMENT OF THE PLATTE.

HEADQUARTERS DEPARTMENT OF THE PLATTE,
JUDGE-ADVOCATE'S OFFICE,
Omaha, Nebr., September 6, 1895.

To the JUDGE-ADVOCATE-GENERAL, UNITED STATES ARMY,
Washington, D. C.

SIR: Under the requirements of Army Regulations 984, as amended by General Orders, No. 19, Adjutant-General's Office, 1892, I have the honor to submit the following report of the business of this office for the period commencing September 1, 1894, and ending August 31, 1895:

GENERAL COURTS-MARTIAL.

During the period named 191 sets of charges have been tried by general courts-martial; 3 recommended for trial in other departments; 1 returned for trial by garrison court-martial; 27 returned for trial by summary court; in 4 cases the accused were restored to duty without trial; 1 discharged before trial; 2 deserted; 1 turned over to the civil authorities; 3 sets of charges were withdrawn; 8 are awaiting trial, and 4 pending.

The cases tried include:

Commissioned officers.....	1
Noncommissioned officers.....	12
Privates, etc.....	178
Total.....	191

Of these 191 trials, 19 resulted in acquittal.

The number of convictions of different offenses during the period named, is as follows:

Seventeenth article of war:	
Losing clothing.....	2
Losing Government property.....	3
Selling Government property.....	1
Twentieth article of war:	
Disrespect to commanding officer.....	1
Twenty-first article of war:	
Disobeying superior officer.....	2
Thirty-second article of war:	
Absence without leave.....	25
Thirty-third article of war:	
Failure to attend drill, roll calls, etc.....	26
Thirty-eighth article of war:	
Drunk on guard.....	5
Drunk on other duty.....	17

Thirty-ninth article of war:	
Quitting post.....	8
Sleeping on post.....	2
Fortieth article of war:	
Quitting guard.....	10
Forty-seventh article of war:	
Desertion.....	16
Fifty-first article of war:	
Persuading to desert.....	2
Sixtieth article of war:	
Stealing Government property.....	1
Wrongfully disposing of Government property.....	1
Sixty-first article of war:	
Conduct unbecoming an officer and a gentleman.....	1
Sixty-second article of war:	
Assault.....	12
Assault and battery.....	2
Assault with dangerous or deadly weapon.....	6
Assault with intent to kill.....	2
Breach of arrest.....	7
Committing a nuisance.....	4
Disobeying commissioned officer.....	2
Disobeying noncommissioned officer.....	21
Disposing of clothing.....	1
Disrespect to superior officer.....	10
Drunkenness.....	20
Drunkenness, causing arrest by civil authorities.....	2
Escaping from guard or arrest.....	2
False swearing.....	1
Fighting.....	7
Fraudulent enlistment.....	6
Insubordinate conduct toward noncommissioned officer.....	23
Larceny.....	8
Neglect of duty.....	4
Perjury.....	2
Resisting arrest.....	2
Selling, losing, or wasting Government property.....	6
Disorders, etc., charged as "conduct to the prejudice of good order and military discipline" (not included in previous headings).....	40

The cases tried are apportioned among the different organizations as follows:

Second Infantry.....	40	Eighth Cavalry.....	2
Seventh Infantry.....	1	Ninth Cavalry.....	40
Eighth Infantry.....	50	Tenth Cavalry.....	1
Twelfth Infantry.....	14	Hospital Corps.....	1
Seventeenth Infantry.....	27	Noncommissioned staff.....	1
Twentieth Infantry.....	2	Private, retired.....	1
Twenty-first Infantry.....	3		
First Cavalry.....	3	Total.....	191
Sixth Cavalry.....	5		

These records of trials have all been examined in this office, the decisions and orders of the department commander indorsed thereon, promulgated in orders, and forwarded to the office of the Judge-Advocate-General.

INFERIOR COURTS.

During the period covered by this report 1,374 records of trials by inferior courts—garrison and summary—have been received, revised, and filed in this office, of which number 1,327 were by summary and 47 by garrison courts.

These trials include violations of the following articles of war:

Seventeenth article of war:	
Losing clothing.....	2
Twenty-fourth article of war:	
Disobeying noncommissioned officer quelling fray.....	1
Thirty-first article of war:	
Lying out of quarters.....	1
Thirty-second article of war:	
Absence without leave.....	319
Thirty-third article of war:	
Failure to attend drills, roll calls, etc.....	553

Thirty-eighth article of war:	
Drunk on guard.....	1
Drunk on duty other than guard.....	75
Fortieth article of war:	
Quitting company on march.....	1
Sixty-second article of war:	
Absence without leave, not chargeable under thirty-second article of war..	39
Abusing horse.....	10
Assault, fighting.....	36
Breach of arrest.....	26
Committing a nuisance.....	9
Dirty gun, clothing, etc.....	29
Disobeying noncommissioned officer.....	59
Disobeying post orders.....	38
Disobeying company orders.....	10
Disorderly conduct near post.....	9
Disrespect to superior officer.....	16
Drunkenness.....	53
Drunkenness, etc., causing arrest by civil authorities.....	8
Drunkenness and disorderly conduct in post exchange or quarters.....	86
False statement to officer or noncommissioned officer.....	13
Gambling.....	1
Insubordinate conduct toward noncommissioned officer.....	38
Introducing liquor into post.....	9
Neglect of duty.....	47
Neglect of duty (sentinel).....	20
Resisting arrest.....	7
Disorders, etc., charged as "conduct to the prejudice of good order and mili- tary discipline" (not included under previous heads).....	91

These cases are apportioned among the different organizations as follows:

Sixth Cavalry.....	11	Twelfth Infantry.....	195
Eighth Cavalry.....	32	Seventeenth Infantry.....	162
Ninth Cavalry.....	251	Twenty-first Infantry.....	21
Second Infantry.....	335	Hospital Corps.....	17
Eighth Infantry.....	350		
		Total.....	1, 374

The number of different men tried by inferior courts during the year is 832, and the number of acquittals 41. In 3 cases the sentences were disapproved by the post commander.

SUMMARY COURTS.

One thousand three hundred and twenty-seven records of trials by summary courts have been received, revised, and filed in this office.

The following table exhibits the number of such cases tried by summary courts at the several posts in the department:

Fort McKinney.....	31	Fort D. A. Russell.....	323
Fort Niobrara.....	301	Fort Washakie.....	34
Fort Omaha.....	357	Fort Meade.....	33
Camp Pilot Butte.....	2		
Fort Robinson.....	246	Total.....	1, 327

The following table, giving the percentage of trials of enlisted men by the different courts-martial during the period covered by this report, together with the record for the same period last year, is based upon the average enlisted strength of the department:

Year.	General.	Garrison.	Summary.
1893-94.....	9.1	1.6	63.5
1894-95.....	9.0	2.2	62.2

Very respectfully,

E. H. CROWDER,
Major and Judge-Advocate, United States Army.

REPORT OF CAPT. CHARLES MCCLURE, ACTING JUDGE-ADVOCATE, DEPARTMENT OF THE COLUMBIA.

HEADQUARTERS DEPARTMENT OF THE COLUMBIA,
JUDGE-ADVOCATE'S OFFICE,
Vancouver Barracks, Wash., Sept. 7, 1895.

JUDGE-ADVOCATE-GENERAL, UNITED STATES ARMY,
Washington, D. C.

SIR: Pursuant to the provisions of paragraph 984, Army Regulations, as amended by General Orders, No. 19, Adjutant-General's Office, series of 1892, I have the honor to submit the following report for the year ended August 31, 1895.

The appendices herewith, which are made a part of this report, are as follows: General courts-martial, A; inferior courts-martial, B; desertions, C.

GENERAL COURTS-MARTIAL.

The number of trials of enlisted men by general courts-martial is 72, as against 83 last year and 98 the preceding year. Commissioned officers tried during the year, 3.

INFERIOR COURTS-MARTIAL.

The number of trials by inferior courts-martial is 738 (727 by the summary court and 11 by the garrison court-martial), as against 925 last year and 748 the preceding year.

It is well known that the summary court act does not provide for all the cases that may arise requiring summary action. Furthermore, it is considered that experience has demonstrated that reserving to the accused the right to peremptorily decline trial by said court is practically unnecessary either in the interest of the accused or of discipline. It is presumed that the matter of amending the act in question will come up for consideration during the next session of Congress.

The summary court has worked so well in practice, that any material change in its personnel would, in my opinion, be unwise, and for the following reasons:

First. The line officer second in rank will, in general, under existing conditions, be a field officer and therefore presumably impartial in the matter of discipline as between the different organizations of the command; will be an officer of large experience and hence ordinarily well qualified to hear and determine the cases which come before the summary court.

Second. It is exceedingly desirable that the same officer as far as practicable should act as summary court. He thus becomes highly responsible for the discipline of the post, necessarily feels this responsibility, naturally tries to be consistent in awarding punishment, which tends to uniformity of same, soon ascertains the habitual offenders and can add to and vary their punishment as his experience with them suggests.

Third. While it may be said that the commanding officer should have power to select the officer best fitted for summary court duty, it should be remembered that as this court consists of but *one* officer, to vest such power in the commanding officer will tend to destroy in the summary court that independence which is so essential in the exercise of the judicial function.

To cure the defects in the summary court act and at the same time retain the personnel of the court, it is suggested that section 1 of the act should be amended to read substantially as follows:

"That hereafter, in time of peace, all enlisted men charged with offenses heretofore cognizable by a garrison or regimental court-martial under the provisions of the eighty-first, eighty-second and eighty-third articles of war shall, within twenty-four hours from the time of their arrest, unless they are to be tried by general court-martial, be brought before a summary court, which shall consist of the line officer second in rank at a post, station, or of a command, and at stations where only officers of the staff are on duty, or a staff officer is in command thereof, the officer second in rank, who shall have power to administer oaths and to hear and determine the case and adjudge the punishment to be inflicted; which said punishment shall not, in confinement and forfeiture, exceed confinement at hard labor for one month and forfeiture of one month's pay. There shall be a summary court record book or docket kept at each military post, and in the field at the headquarters of the command, in which shall be entered a record of all cases heard and determined and the action had thereon, and no sentence adjudged by said summary court shall be executed until it shall have been approved by the post or other commander who shall have power to remit or mitigate the same: *Provided*, That when but one

commissioned line officer is present with a command and in command thereof, or where a staff officer is the only commissioned officer present with a command, said officers shall hear and finally determine such cases as require summary action: *And provided further*, That noncommissioned officers above the rank of corporal shall not, if they object thereto, be brought to trial before summary courts without the authority of the officer competent to order their trial by general court-martial, who may grant such authority or order their trial by general court-martial: *And provided further*, That when the summary court officer is a witness against the accused, the latter may, except in the cases covered by the first proviso herein, object to trial thereby, whereupon the case shall be heard and determined by the post or other commander.

"SEC. 2. That post and other commanders shall, on the last day of each month, make a report to the department headquarters of the number of cases determined by summary court during the month, setting forth the offenses committed and the penalties awarded, which report shall be filed in the office of the judge-advocate of the department."

It is considered that the executive order of March 20, 1895, amending the executive order of February 26, 1891, which established limits of punishment for enlisted men of the Army, has cured practically all the defects which the latter order was found to contain.

I am, however, still of the opinion that in every trial by court-martial, after a finding of guilty (when a discretionary punishment is authorized), evidence, if any, of all previous convictions had within a prescribed period should be submitted to the court to aid it in determining upon a sentence; and when the limit of punishment is such that it should not be increased by reason of previous convictions, they should be considered in determining whether that limit should be imposed.

The absence of this provision may, in cases where the limit of punishment can not be increased by reason of previous convictions, induce an unjust *uniformity* of punishment without fault on the part of the court. If section 3, article 3, of General Orders, No. 16, Adjutant-General's Office, current series, were so amended as to incorporate the rule above suggested, our procedure respecting previous convictions would be simple, complete and just in its operation; at any rate, whatever injustice might be done in particular cases by way of uniformity of punishment would be directly chargeable, in the first instance, to the courts and not to a limitation upon their power to receive evidence of previous convictions.

DESERTIONS.

The number of desertions is 74 this year, as against 47 last year and 122 the preceding year. The percentage is 4.8 as against 3.3 last year and 8.9 the preceding year.

The number of trials for desertion during the year was 13 as against 22 last year. It is thus seen that while the number of trials has decreased nearly one-half, the number of desertions has increased. Seven deserters surrendered as against 6 last year. There were 6 apprehensions this year as against 16 last year. Of these the civil authorities made 3 this and 15 last year.

This marked falling off in the number of apprehensions by civil officers is of course due to the fact that during last year they were paid \$60 for the arrest and delivery of a deserter, while since August 6, 1894, the reward has, by act of Congress, been limited to \$10.

It is difficult to conceive upon what theory this limitation was imposed. The theory may have been that if the military authorities aided by wise legislation remove practically all the "causes" which may induce desertions, none but utterly worthless men will desert, and the apprehension of such for the purpose of punishment is unnecessary, even undesirable.

Such a theory is surely utopian. Desertions from our Army can not be reduced to the minimum except by both correcting as far as practicable matters of military administration which may induce them, and administering prompt, proper and certain punishment upon those who nevertheless desert.

The legislation providing for purchase of discharge and extending the statute of limitation to desertion, the recent regulations as to recruiting, to say nothing of the provisions which have been made for the care, comfort and amusement of enlisted men, the punishments authorized for desertion, the \$60 reward determined upon by the military authorities as a proper compensation for the arrest and delivery of a deserter by a civil officer, were all manifestly in accordance with the views just stated, and the results which were obtained are cited in support of the correctness of those views.

The limitation of the reward, by statute, to \$10 was, I am convinced, a step backward. With our Army of 25,000, or even with an army of 50,000, we must necessarily depend upon civil officers to apprehend our deserters. These officers can not be expected to arrest and deliver them without reasonable compensation for such service; and \$10 for the arrest and delivery of a deserter is not reasonable compensation. The effect of this legislation is and will be to practically deprive the military authorities of the power to punish deserters, unless the latter consent thereto; that is to say, voluntarily "surrender" for trial and punishment. I can not but believe that the ultimate result of the law in question will be a material increase in the number of desertions. It is to be hoped that it may be speedily repealed and a statute substituted therefor authorizing a reward of at least \$60.

REMARKS.

This being my last annual report as acting judge-advocate, I desire to state that during the whole time of my service as such—since December 1, 1890—Clerk Henry L. Lee has done the clerical work of this office, and I take pleasure in saying that he has performed his duties to my entire satisfaction. He is an excellent clerk, temperate and industrious, and does his work intelligently, accurately, neatly and promptly. In my opinion, the clerks in the offices of judge-advocates at the several department headquarters should be assigned exclusively to such duty; and as a proper performance of their duties requires more than ordinary intelligence, they should be transferred to the second class and thus receive \$1,100 per year instead of \$1,000 as at present. If the changes herein suggested could be made, no clerk would more deserve to profit by them than the one on duty in this office.

Very respectfully, your obedient servant,

CHARLES MCCLURE,
Captain, Eighteenth Infantry, Acting Judge-Advocate.

APPENDIX A.

GENERAL COURTS-MARTIAL.

Number of general court-martial records received, revised, recorded and forwarded to the Judge-Advocate General during the year ending August 31, 1895:

Cases of enlisted men.....	72
Convictions.....	65
Acquittals.....	7
Total.....	72

Comparison of total number with that of two previous years:

Cases tried 1892-93.....	98
Cases tried 1893-94.....	83
Cases tried 1894-95.....	72
Decrease from last year.....	11

	Men.	Cases.
Tried once.....	64	64
Tried twice.....	4	8
Total.....	68	72

Three commissioned officers tried during the year, viz, two belonging to the Fourteenth Infantry and one to the Pay Department.

Distribution of cases tried by general courts among the different military posts in the department.

Post.	Cases tried at post.	Of men belonging to post.	Of men belonging to other posts.	Of men belonging to other departments.	Men of post tried at other posts.	Total number of men of post tried.	Average strength of garrison.	Per cent.	Per cent last year.
Boise Barracks.....					4	4	122	3.3	3.4
Fort Canby.....					5	5	124	4.0	8.8
Fort Sherman.....	25	25			1	26	322	8.1	7.5
Fort Spokane.....	3	2	1		1	2	190	1.6	1.8
Fort Townsend.....					2	2	63	3.2	0.3
Vancouver Barracks.....	25	13	9	8		13	521	2.5	4.4
Fort Walla Walla.....	19	14	4	1	1	15	199	7.5	4.0
Total and average.....	72	54	14	11	14	68	1,541	4.4	5.3

Year	Number tried by courts martial and number of trials.				Length of service					Months in which desertions occurred.														
	General courts.	Inferior courts			Less than 1 year.	Between 1 and 2 years	Between 2 and 3 years.	Between 3 and 4 years.	Between 4 and 5 years.	Over 5 years' service.														
		Tried once.	Tried more than once	Not tried							August.	September	October.	November.	December.	January.	February.	March.	April.	May	June.	July	August.	
1894-95.....	6	11	20	41	32	18	4	3	5	12	9	6	7	2	1	3	4	4	11	4	10	7	7	
1891-94.....	2	13	11	21	21	15	4	1	2	5	5	3	3	5	2	1	1	1	5	5	8	3	4	
1892-93.....	1	17	21	38	21	37	5	2	1	3	7	6	3	4	0	4	3	14	18	23	17	7		
1891-92.....	5	17	33	53	5	7	2	2	1	3	2	5	5	3	1	3	2	9	9	9	8	5		

Distribution of cases of desertion among the different military posts in the department.

Post.	Average strength of garrison.	Number of desertions.	Per cent.
Boise Barracks.....	122	4	4.9
Fort Canby.....	124	4	3.2
Fort Sherman.....	322	16	5.0
Fort Spokane.....	190	4	2.1
Fort Townsend.....	63	5	7.9
Vancouver Barracks.....	521	27	5.2
Fort Walla Walla.....	199	12	6.0
Total and average.....	1,541	74	4.8

Number of convictions of different offenses tried by general courts in the department during the year ending August 31, 1895:

Seventeenth article of war:	
Losing clothing.....	1
Losing arms, etc.....	3
Twenty-first article of war:	
Disobeying superior officer.....	2
Twenty-fourth article of war:	
Disobeying noncommissioned officer quelling a fray.....	1
Thirty-second article of war:	
Absence without leave.....	17
Thirty-third article of war:	
Failure to attend drills, roll calls, etc.....	7
Thirty-eighth article of war:	
Drunkenness on duty.....	7

Thirty-ninth article of war:	
Quitting post.....	4
Sleeping on post.....	1
Fortieth article of war:	
Quitting guard.....	1
Forty-seventh article of war:	
Desertion.....	10
Sixtieth article of war:	
Selling rations.....	1
Sixty-second article of war:	
Absent from special duty.....	1
Assault.....	4
Assault with a knife.....	1
Assault, causing arrest, etc., by civil authorities.....	1
Assault with intent to commit rape.....	1
Breach of arrest, noncommissioned officer.....	1
Breach of arrest, private.....	2
Burglary.....	1
Committing nuisance.....	2
Disregard of orders.....	7
Drunkenness.....	6
Fraudulent enlistment.....	3
Mutinous conduct.....	1
Resisting arrest.....	2
Theft.....	4
Threatening with personal violence.....	1
Using disrespectful language to noncommissioned officer.....	1
Using vile and threatening language to noncommissioned officer.....	5
Disorders, etc., charged as "conduct to the prejudice of good order and military discipline" (not included under previous heads).....	8

Number of convictions of desertion.....	10
Convicted of "absence without leave," charge "desertion".....	3
Number of cases tried for desertion 1894-95	13
Number tried last year.....	22
Decrease.....	9

Number of men dishonorably discharged.....	27
Same, last year.....	46
Number of men dishonorably discharged for minor offenses on account of previous convictions.....	8
Same, last year.....	8
Number of trials in which evidence of previous convictions was introduced.....	34
Same, last year.....	37
Number of noncommissioned officers reduced to the ranks.....	21

[illegible]

APPENDIX B.

INFERIOR COURTS-MARTIAL.

Garrison courts-martial.

Number of cases tried by garrison courts-martial during the year ending August 31, 1895.....	11
Number of men tried (convicted, 10; acquitted, 1).....	11

Summary courts.

Number of cases tried by summary courts during the year ending August 31, 1895.....	727
Number of men tried.....	431
Convictions.....	706
Acquittals.....	21
Total.....	727
Noncommissioned officers reduced to the ranks by sentence of inferior courts.....	13
Forfeitures imposed and executed.....	\$2, 199. 00
Number of days confinement at hard labor.....	2, 981
Number of days solitary confinement on bread and water diet.....	35
To be admonished.....	1
To be reprimanded by commanding officer.....	1

Distribution of cases tried by inferior courts, with number confined and released without trial, at the posts in the department.

Post.	Average strength of garrison.	Cases tried.		Men tried.	Per cent men tried.	Confined and released without trial.
		Summary.	Garrison.			
Boise Barracks.....	122	56	3	40	32.8	1
Fort Canby.....	124	38	1	27	21.8	18
Fort Sherman.....	322	131	1	92	28.6	3
Fort Spokane.....	190	82	3	53	27.9	12
Fort Townsend*.....	63	8	.....	7	11.1	25
Vancouver Barracks.....	531	212	2	140	26.9	.....
Fort Walla Walla.....	199	200	1	89	44.7	.....
Total and average.....	1, 541	727	11	446	28.7	59

* Post abandoned March 5, 1895.

† Four men tried both at Forts Sherman and Spokane and two men tried both at Fort Townsend and Vancouver Barracks consequent upon change of station. Number of different men tried by inferior courts, 442.

Distribution of cases and men tried by inferior courts among the different organizations serving in the department.

Organization.	Trial.	Band.	A.	B.	C.	D.	E.	F.	G.	H.	I.	M.	Total.
Fourth Cavalry.....	Cases..	23	63	.....	.....	40	27	26	38	74	.....	.....	291
	Men..	8	26	.....	.....	23	17	20	26	31	.....	.....	151
Fifth Artillery.....	Cases..	.....	.....	29	.....	.....	.....	.....	.....	.....	.....	8	37
	Men..	.....	.....	17	.....	.....	.....	.....	.....	.....	.....	8	25
Fourth Infantry.....	Cases..	3	18	13	31	21	16	32	48	25	.....	.....	207
	Men..	2	16	11	19	18	10	19	23	16	.....	.....	134
Fourteenth Infantry.....	Cases..	6	17	25	33	23	28	21	22	17	.....	.....	192
	Men..	5	12	15	19	15	15	17	15	12	.....	.....	125
Hospital Corps.....	Cases..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10
	Men..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6
Total.....	Cases..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	737
	Men..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	441

NOTE.—Troops, batteries and companies showing no trials in above table are not serving in the department. Case of man belonging to Seventh Infantry not included in this table.

Distribution of cases of desertion among the different organizations serving in the department.

Organization.	Band.	A.	B.	C.	D.	E.	F.	G.	H.	I.	M.	Total	Average strength of organization.	Per cent.
Fourth Cavalry	2	1	(*)	(*)	3	2	4	5	6			23	363	6.3
Fifth Artillery	(*)	(*)	1	(*)	(*)	(*)	(*)	(*)	(*)	(*)	3	4	116	3.4
Fourth Infantry		2	3	2	2		4	3	1			17	505	3.4
Fourteenth Infantry ..		4	3	3	5	2	9	1	3			30	499	6.0
Noncommissioned staff ..													41	.....
Hospital corps													17	.....
Total and average												74	1,541	4.8

* Not serving in the department.

REPORT OF CAPT. F. J. KERNAN, ACTING JUDGE-ADVOCATE, DEPARTMENT OF TEXAS.

HEADQUARTERS DEPARTMENT OF TEXAS,
JUDGE-ADVOCATE'S OFFICE,
San Antonio, Tex., September 16, 1895.

To the JUDGE-ADVOCATE-GENERAL, UNITED STATES ARMY,
Washington, D. C.

SIR: I have the honor to submit the following report of the business of this office for the year ending August 31, 1895:

There were no commissioned officers tried.

The following table shows the number of general, garrison, and summary courts-martial cases tried at the several posts in the department, with the percentage of trials:

Post.	Average enlisted strength of garrison.	Number and percentage of trials.					
		General cases tried.	Percentage of general cases tried.	Garrison cases tried.	Summary cases tried.	Total inferior cases tried.	Percentage of inferior cases tried.
Fort Bliss	232	23	9.91	3	114	117	50.43
Fort Brown	125	2	1.60		57	57	45.60
Fort Clark	512	30	5.86	4	149	153	29.88
Camp Eagle Pass	59				50	50	84.75
Fort Hancock	84				26	26	49.63
Fort McIntosh	183	15	8.20		82	97	33.88
Fort Ringgold	201	12	5.97	5	155	160	79.60
Fort Sam Houston	611	38	6.22	4	281	285	46.64
Total	1,967	120	6.04	16	664	910	45.80
Convictions		110		13	671	883	
Acquittals		10		4	23	27	

There were 597 different enlisted men tried by inferior courts-martial.

The different offences tried by general courts-martial were as follows:

Nature of offence.	Article of war violated.	Cases tried.
Losing clothing.....	Seventeenth	1
Losing Government property.....	do	2
Selling clothing.....	do	4
Disobeying superior officer.....	Twenty-first.....	4
Disobeying order of commissioned officer to quit fighting.....	Twenty-fourth	1
Absence without leave.....	Thirty-second	22
Failure to attend drill, roll call, etc.....	Thirty third	10
Drunkenness on duty.....	Thirty-eighth	12
Quitting post.....	Thirty ninth.....	1
Sleeping on post.....	do	3
Quitting guard	Fortieth	4
Desertion.....	Forty seventh	13
Embezzlement.....	Sixtieth	1
Larceny	do	1
Selling Government property.....	do	2
Absence without leave not chargeable under thirty-second article of war.	Sixty-second.....	4
Allowing prisoner to escape.....	do	1
Assault.....	do	2
Assault and battery.....	do	1
Assault with dangerous or deadly weapon.....	do	1
Breach of arrest.....	do	2
Breach of hospital regulations.....	do	1
Committing a nuisance.....	do	2
Conduct to the prejudice of good order and military discipline.....	do	29
Destroying Government property.....	do	1
Disobeying noncommissioned officer.....	do	4
Disobeying sentinel.....	do	2
Drunkenness	do	13
Drunkenness, etc., causing arrest by civil authorities.....	do	2
False swearing.....	do	1
Firing on sentinel.....	do	1
Fraud.....	do	1
Fraudulent alterations of property returns.....	do	1
Fraudulent enlistment.....	do	9
Insubordinate conduct toward commissioned officer.....	do	2
Insubordinate conduct toward noncommissioned officer.....	do	7
Introducing liquor into post.....	do	2
Larceny.....	do	6
Lying.....	do	1
Neglect of duty.....	do	8
Perjury	do	1
Prowling around quarters of an officer.....	do	1
Resisting arrest.....	do	3
Robbery	do	1
Sentinel sitting down on post.....	do	2

The total of cases tried is distributed among organizations as follows:

Regiment or corps.	General.	Inferior trials.	
		Garrison.	Summary.
Post noncommissioned staff.....	3	.....	.....
Hospital Corps.....	2	.....	5
First Cavalry	1	.....	.....
Fifth Cavalry	43	5	329
Seventh Cavalry	20	.....	86
Eighth Cavalry	1	.....	.....
First Artillery	1	.....	.....
Third Artillery.....	4	1	28
Fourth Artillery.....	1	.....	.....
Fifth Artillery.....	1	.....	.....
Fifth Infantry	1	.....	.....
Eighteenth Infantry.....	27	6	255
Twenty-third Infantry.....	15	4	174
Indian scouts.....	.....	.....	17
Total.....	120	16	894

The following table affords comparisons as to average enlisted strength of the department, and number and percentage of trials for the periods stated:

Year.	Average enlisted strength.	Trials by courts-martial.		Percentage of trials.	
		General.	Inferior.	General.	Inferior.
1894	1,932	152	1,077	7.87	55.75
1895	1,987	120	910	6.04	45.80

The foregoing comparison shows a decided falling off in the number and percentage of trials by both general and inferior courts-martial.

The decrease in trials by general court-martial is largely due to the fewer trials for desertion, and this fact, in turn, is the result of reducing the reward for apprehending deserters from \$60 to \$10.

My annual report to the department commander for the past fiscal year upon the subject of desertions is made an appendix hereto. From that report it will be seen that while there has been a marked increase in the number of desertions over the preceding year, there has been, also, a decided decrease in the number of these offenders apprehended. If it is held undesirable to apprehend and punish this class of offenders, the present reward is exactly suited to that view of the case. But if the opposite view is taken, then a return to a sufficient reward is much to be desired. I believe that certainty of apprehension and punishment is the most available and most certain cure for desertion. We do not care to seize and punish the deserter for his own sake perhaps; but we ought to do so as an example to others of his way of thinking who are contemplating the commission of the same offense.

The new code of punishment is working well; and the summary court will reach its maximum of usefulness when its composition is determined by intelligent selection instead of by chance, as now.

Very respectfully,

F. J. KERNAN,
Captain and Acting Judge-Advocate.

APPENDIX.

HEADQUARTERS DEPARTMENT OF TEXAS,
JUDGE-ADVOCATE'S OFFICE,
San Antonio, Tex., July 19, 1895.

To the ADJUTANT-GENERAL, DEPARTMENT OF TEXAS:

SIR: I have the honor to submit for the information of the department commander, in accordance with paragraph 118, Army Regulations, as amended by General Orders, No. 145, Adjutant-General's Office, series of 1890, the following report of desertions within this department for the preceding fiscal year:

American-born.....	91
Foreign-born	29
Total	120

Of these, 66 enlisted outside of the department; 54 enlisted in the department.

Causes of desertion, taken from the separate special reports rendered in each case, viz:

Chronic deserters, "repeaters".....	8
Debts.....	7
Dislike of service	16
Drinking, drunkenness.....	6
Family troubles.....	1
Fear of punishment for offenses	9
Influenced by relatives to come home.....	1
Involved with a woman.....	3
Left to work in Mexico.....	1
Of unsound mind	1
Selling Government property.....	1
To avoid paying fine imposed by civil authorities.....	1
Suspected of theft	3
Worry over disease	1
Worthlessness	2
Unknown causes.....	59
Total	120

Had served—

One day to six months	50
Six months to one year.....	24
One year to two years.....	24
Two years to three years.....	11
Three years to four years.....	4
Four years to five years	2
Five years and over.....	5

Total	120
-------------	-----

The following table gives the posts and organizations from which the men deserted :

Posts:		Regiment or corps:	
Fort Bliss	20	Hospital Corps	1
Fort Brown		Fifth Cavalry.....	20
Fort Clark	25	Seventh Cavalry	20
Camp Eagle Pass.....	5	Third Artillery.....	15
Fort Hancock	6	Fifth Infantry	1
Fort McIntosh	3	Eighteenth Infantry.....	36
Fort Ringgold.....	11	Twenty-third Infantry.....	27
Fort Sam Houston.....	50		
Total	120	Total	120

The following table exhibits the character and rank of these deserters:

Character:	
Excellent.....	11
Very good	6
Good	41
Good when sober.....	1
Not good	2
Fair	15
Indifferent.....	7
Poor.....	1
Very poor	1
Bad	11
Worthless.....	12
Unknown.....	12
Total	120

Rank:	
Corporal.....	1
Wagoner.....	1
Blacksmith	1
Trumpeter	1
Musician.....	1
Privates	115
Total	120

The number of desertions for the year ended June 30, 1894, and the percentage of loss from this cause, with comparison with the present fiscal year, are given below:

Year.	Average enlisted strength.	Number of desertions.	Percentage of loss.
1894	1,941	84	4.33
1895	1,963	120	6.11

The conditions of service in this department have been substantially the same in the fiscal year just closed as in the preceding year. The same organizations, except one company of the Fifth Infantry, continue to compose the department command and the same posts, except Old Fort Bliss, continue to be occupied.

The percentage of desertions, however, has considerably increased. What is the cause of this increase? The answer, in my opinion, is to be found in the decreased reward offered for the apprehension of deserters. In the preceding fiscal year \$60 was the amount of the reward and, stimulated by this, civil officers were on the alert

for deserters and many arrests were made. The reduction to \$10 reward practically took away all incentive from the sheriffs, etc., and it is a rare thing for a civil officer now to arrest a deserter.

However various the causes may be which impel men to desertion, certainty of apprehension is, beyond question, the most effectual preventive. This preventive being largely removed by the reduction named, an increase of desertion has naturally followed.

If it is desired to reduce the number of deserters next year, that can easily be accomplished by offering an adequate reward for the arrest of this class of offenders.

Very respectfully,

(Signed) F. J. KERNAN,
Captain and Acting Judge-Advocate.

REPORT OF CAPT. A. C. SHARPE, ACTING JUDGE-ADVOCATE, DEPARTMENT OF THE COLORADO.

HEADQUARTERS DEPARTMENT OF THE COLORADO,
OFFICE OF THE JUDGE-ADVOCATE,
Denver, Colo., August 31, 1895.

To the JUDGE-ADVOCATE-GENERAL, UNITED STATES ARMY,
Washington, D. C.

SIR: In compliance with paragraph 984, Army Regulations, I have the honor to submit the following report of the business of this office for the year ending this date:

COURTS-MARTIAL.

There were 179 enlisted men tried by general courts-martial during this period, from the different organizations serving in this department, and including deserters from organizations not in the department, as follows:

Post quartermaster sergeants.....	2	Sixteenth Infantry	28
First Cavalry.....	21	Twenty-fourth Infantry	34
Second Cavalry.....	28		<hr/>
Seventh Cavalry.....	4		171
Ninth Cavalry.....	1	From other organizations.....	8
Seventh Infantry.....	29		<hr/>
Eleventh Infantry.....	24	Total.....	179

The number of enlisted men tried by general courts-martial, at the different posts in the department, is shown by the following schedule:

Fort Apache.....	7	Fort Logan.....	39
Fort Bayard.....	28	Fort Stanton	2
Fort Douglas.....	33	Whipple Barracks.....	14
Fort Du Chesne.....	0	Fort Wingate.....	24
Fort Grant	15		<hr/>
Fort Huachuca.....	17	Total	179

The following schedule exhibits the nature of the offenses for which enlisted men were tried by general courts-martial:

Sixteenth article of war:	
Selling ammunition	1
Seventeenth article of war:	
Losing clothing.....	2
Losing Government property.....	1
Selling clothing	5
Twentieth article of war:	
Disrespect to commanding officer.....	3
Twenty-first article of war:	
Disobeying superior officer.....	5
Thirty-second article of war:	
Absence without leave	44
Thirty-third article of war:	
Failing to attend drill, roll call, etc.....	15
Thirty-eighth article of war:	
Drunkenness on duty.....	15

Thirty-ninth article of war:	
Quitting post.....	6
Sleeping on post.....	7
Fortieth article of war:	
Quitting guard.....	3
Forty-seventh article of war:	
Desertion	17
Sixtieth article of war:	
Frauds	1
Larceny	3
Sixty-second article of war:	
Abusing public animals	4
Absence without leave not chargeable under the thirty-second article of war.	2
Assault	1
Assault and battery	9
Assault with dangerous or deadly weapon.....	4
Assault with intent to kill.....	1
Breach of arrest.....	5
Carrying concealed weapons.....	3
Disobeying a noncommissioned officer.....	11
Disrespect to superior officer	1
Disorderly conduct.....	6
Drunkenness	10
Drunk and disorderly.....	4
Drunkenness, causing arrest by civil authorities.....	1
Escaping from guard or arrest.....	1
False swearing.....	1
Fighting.....	6
Fraudulent enlistment	8
Insubordinate conduct toward noncommissioned officer.....	2
Larceny	10
Neglect of duty	6
Resisting arrest.....	4
Using obscene, threatening, and insubordinate language.....	14
Disorders, etc., charged as "conduct to the prejudice of good order and military discipline" (not included under previous heads).....	35

Of the whole number of trials by general courts martial, 15 resulted in acquittal. Forty-seven men were dishonorably discharged through citation of previous convictions under Paragraph III, General Orders, No. 21, series 1891, and General Orders, No. 16, series 1895, Adjutant-General's Office.

Inferior courts.

Post.	Number of trials by—		Total.
	Summary court.	Garrison court.	
Fort Apache.....	86	5	91
Fort Bayard.....	213	8	221
Fort Bowie	3		3
Fort Douglas	240		240
Fort Du Chesne.....	45	4	49
Fort Grant	63	2	65
Fort Huachuca	174	8	182
Fort Logan	481		481
Fort Stanton.....	38		38
San Carlos.....	3		3
Whipple Barracks	165		165
Fort Wingate	90		90
	1,601	27	1,628
Trials at Fort Riley, Seventh Cavalry, before coming to department	101		101
Total	1,702	27	1,729

In 27 cases objection was made to trial by summary court.
The following schedule exhibits the nature of the offenses for which enlisted men were tried by inferior courts:

Violation of the—		Violation of the—	
Seventeenth article of war.....	3	Thirty-eighth article of war....	73
Twenty-first article of war.....	4	Thirty-ninth article of war.....	2
Thirty-first article of war.....	6	Fortieth article of war.....	2
Thirty-second article of war....	378	Sixty-second article of war.....	650
Thirty-third article of war.....	509		
Number of acquittals by summary courts.....			49
Number of acquittals by garrison courts.....			3
Total			52
Number of different men tried.....			1, 017
Per cent of enlisted men tried by inferior courts.....			30

DESERTIONS.

There have been 138 desertions from the different organizations serving in this department during the past year, as follows:

First Cavalry.....	22	Eleventh Infantry.....	29
Second Cavalry.....	24	Sixteenth Infantry.....	12
Seventh Cavalry.....	2	Twenty-fourth Infantry.....	6
Ninth Cavalry.....	0		
Seventh Infantry.....	43	Total	138

The number of desertions from the different posts in the department is as follows:

Fort Apache	2	Fort Stanton	1
Fort Bayard	8	Whipple Barracks.....	27
Fort Douglas.....	12	Fort Wingate	13
Fort Du Chesne	0		
Fort Grant.....	15	Total	138
Fort Huachuca	6		
Fort Logan	52	Per cent of desertions	4.13
San Carlos	2	Per cent last year	2.50

REMARKS.

While the average enlisted strength of the department has remained about the same, it is gratifying to note a decrease of 29 per cent in the number of trials by general courts-martial during the year. The more serious offenses, excepting desertions, have also lessened materially, all of which would indicate an improved state of discipline and an improvement in the morale of the enlisted force. This is perhaps due, in large measure, to the improved recruiting system, the post exchange, gymnasium, etc., all of which are beginning to effect and exert an influence upon those for whom these benefits were introduced.

The trials by summary courts have also decreased; the system appears to work well, and with the proposed amendments now under consideration will become as effective as could be desired.

The percentage of desertions during the year has largely increased over that of the preceding twelve months. There is also a marked change in the ratio of desertions and trials. In 1894, with 89 desertions, 43 were brought to trial. During the past year, with 138 desertions, there have been but 17 convictions.

Reports of boards of officers convened in each case to investigate the circumstances failed to throw much light on the subject. While there may be occasional instances of injudicious administration and the imposition of unnecessary restraints which cause more or less disaffection among enlisted men, there is no abuse so grave as to afford reasonable ground, even in the mind of the most thoughtless soldier, for the commission of so grave a crime, nor can its noticeable increase be attributed to the apparent revival of business industry, affording opportunities for more agreeable occupation in civil life; while but few cases appear to be traceable to special causes peculiar to the *locus* of the offense. In addition to all other causes, particular and general, it seems quite evident that the absence of restraint which now exists through the improbability of arrest and punishment, is to be credited with a very considerable share of this increase during the past year. A man not given to nice distinctions may readily persuade himself in a fit of insubordination, despondency or resentment for some real or fancied wrong, that his obligation to the Government is a matter of small moment, and finds its true measure in the \$10 reward which is authorized for his apprehension and return to military custody.

The experience of the past year has confirmed the opinion, expressed in former reports, that the reward should be largely increased. Considering the short enlistment period now fixed by law and the cost of transporting, equipping, subsisting and training a recruit until he becomes of some value to the country, it is believed that a reward of \$100, payable upon the conviction of every deserter, would introduce such an element of certainty or high probability of punishment as to greatly reduce the offense, save money to the Government, and place the odium upon this demoralizing crime which belongs to it in peace as well as in war.

It is suggested that a uniform rule of abatement for all classes of military prisoners serving sentence at posts would be equitable and for the best interest of the service. By the provisions of General Orders, No. 41, c. s., A. G. O., general prisoners only appear to be entitled to computation of abatement on the basis of twenty-five days' good conduct. A garrison prisoner, whose good conduct would be of advantage to the Government in sooner restoring him to duty, should certainly enjoy the same rewards and inducements as those held out to a dishonorably discharged man, who is generally the more serious offender and who has been cast out of the ranks as unworthy of further trust or regard.

I would respectfully renew my recommendations of former years relating to amendments of certain articles of war and for extending the provisions of section 1361, Revised Statutes, to include dishonorably discharged men serving sentence at posts.

Several posts in this department lying at some distance from railways, and local mails being slow over Western roads, reports of summary courts are not all received before the 10th of the following month; reports of desertions are occasionally delayed until the 15th. To afford sufficient time to bring the data down to August 31 it is suggested that the time for rendering the annual report be extended to September 10.

Very respectfully,

A. C. SHARPE,
Captain, United States Army, Acting Judge-Advocate.

REPORT OF CAPT. EDWIN F. GLENN, ACTING JUDGE-ADVOCATE, DEPARTMENT OF DAKOTA.

HEADQUARTERS DEPARTMENT OF DAKOTA,
OFFICE OF THE JUDGE-ADVOCATE,
St. Paul, Minn., September 1, 1895.

The JUDGE-ADVOCATE-GENERAL, UNITED STATES ARMY,
Washington, D. C.

SIR: Under the requirements of paragraph 984, Army Regulations, as amended by General Orders, No. 19, Adjutant-General's Office, 1892, I have the honor to submit the following report, based upon the records of this office for the twelve months ending this date.

During the year 233 enlisted men were tried by general courts-martial, resulting in 218 convictions and 15 acquittals.

The following list shows the number of convictions of different offenses by general court-martial during the year ending August 31, 1895:

Seventeenth article of war:	
Losing clothing.....	6
Losing Government property.....	7
Selling clothing.....	3
Selling Government property.....	1
Twenty-first article of war:	
Disobeying superior officer.....	10
Twenty-fourth article of war:	
Disobeying noncommissioned officer quelling fray.....	1
Thirty-second article of war:	
Absence without leave.....	53
Thirty-third article of war:	
Failure to attend drill, roll call, etc.....	29
Thirty-fourth article of war:	
Found 1 mile from camp.....	2
Thirty-eighth article of war:	
Drunkenness on duty.....	12
Thirty-ninth article of war:	
Quitting post.....	7
Sleeping on post.....	5

Forty-seventh article of war:
Desertion 29

Sixtieth article of war:
Theft 3

Sixty-second article of war:
Absence without leave, not chargeable under the thirty-second article of war. 7
Assault 4
Assault and battery 4
Assault with dangerous or deadly weapon 2
Assault with intent to kill 1
Breach of arrest 6
Disobeying commissioned officer 8
Disobeying noncommissioned officer 20
Disobeying sentinel 3
Disposing of clothing 1
Drunkenness 14
Drunkenness, etc., causing arrest by civil authorities 3
Escaping from guard or arrest 1
Fighting 4
Fraudulent enlistment 7
Insubordinate conduct toward noncommissioned officer 30
Larceny 6
Neglect of duty 15
Resisting arrest 2
Selling, losing, or wasting Government property 3
Uttering forged paper 1
Disorders, etc., charged as "conduct to the prejudice of good order and mili-
tary discipline" (not included under previous heads) 60

The number of trials by garrison courts-martial and the number of trials by summary courts is as follows:

Garrison courts-martial 20
Summary courts 1,509

Total inferior courts 1,529

Number of enlisted men dishonorably discharged:
For desertion 22
For serious offenses 34
Through the use of previous convictions 57

Noncommissioned officers reduced during the year 5

Number of cases accompanied with five or more previous convictions, but not discharged 20

Number of cases referred to inferior courts, though accompanied by five or more previous convictions 9

In concluding this report I can not refrain from commenting upon the incompleteness of the library furnished for the use of the judge-advocate's office. It must be admitted that there is a fair working library on hand at these headquarters, which, being supplemented with my private library and access through courtesy to two public libraries in the city, has enabled me to perform the duties of my office satisfactorily.

The office at this place should, however, be furnished with the statutes of every State in the department, with the reports of the supreme courts of each of these States, together with the Federal Reporter and Supreme Court Reports. The reports of the States could be most economically procured by purchasing the necessary numbers of the Reporter System of the West Publishing Company of this city. The allowance (\$50) made for this purpose is entirely inadequate, since after purchasing the current numbers of the reports now on hand in this office very little, if anything, is left to purchase any new books. An appropriation of \$350, with an annual allowance of from \$75 to \$100, would enable the library to be maintained to the proper standard. The necessity for the statutes of the States in the department, since courts-martial are bound by them in administering punishments, is too apparent to require comment, and I am satisfied that all officers performing the duties of this office will agree with me as to the necessity for the other books mentioned.

The appropriation mentioned is earnestly recommended.
Respectfully submitted.

EDWIN F. GLENN,
Captain, and Acting Judge-Advocate.

REPORT OF OFFICER IN CHARGE OF JUDGE-ADVOCATE'S OFFICE, DEPARTMENT OF CALIFORNIA.

HEADQUARTERS DEPARTMENT OF CALIFORNIA,
OFFICE OF JUDGE-ADVOCATE,
San Francisco, Cal., September 6, 1895.

To the JUDGE-ADVOCATE-GENERAL, UNITED STATES ARMY,
Washington, D. C.

SIR: I have the honor to submit the following report of the business of this office from September 1, 1894, to and inclusive of August 31, current year:

GENERAL COURTS-MARTIAL.

Number of charges forwarded for trial by general courts-martial received and revised	108
Number of trials by general courts-martial, embracing 98 different enlisted men, as against 158 trials by general courts-martial, embracing 150 different enlisted men in preceding year	108
Acquittals	10
The offences for which these men were tried are classified as follows:	
Seventeenth article of war:	
Selling clothing	2
Twentieth article of war:	
Disrespect to commanding officer	1
Twenty-first article of war:	
Disobeying commanding officer	1
Thirty-second article of war:	
Absence without leave	14
Thirty-third article of war:	
Failure to attend roll calls	2
Thirty-eighth article of war:	
Drunkenness on duty	10
Thirty-ninth article of war:	
Asleep on post	1
Leaving post	4
Fortieth article of war:	
Quitting guard	4
Forty-seventh article of war:	
Desertion	*12
Sixtieth article of war:	
Stealing Government property	1
Sixty-second article of war:	
Abusing public animal	2
Aiding sentinel to avoid duty	1
Allowing prisoner to get liquor	1
Allowing prisoner to escape	1
Assault and battery,	2
Assaulting noncommissioned officer	4
Disrespect to commissioned officer	2
Disobeying noncommissioned officer	5
Disorderly conduct	1
Drunkenness	7
Drunk and disorderly	4
False statement	1
Fraudulent enlistment	3
Insubordinate to noncommissioned officer	7
Insubordinate to sentinel	1
Larceny	2
Neglect of duty	7
Pawning revolver	1
Theft	2

* Includes 8 deserters from organizations in other military departments.

Summary of punishments imposed by general courts-martial.

Amount of forfeitures (in some cases with confinement).....	\$1,263
Dishonorably discharged with forfeiture of pay and allowances.....	19
Dishonorably discharged with forfeiture of pay and allowances and confinement.....	15
Of the foregoing number of men shown as dishonorably discharged 22 were upon the basis of previous convictions.	

INFERIOR COURTS-MARTIAL.

Number of trials by inferior courts-martial (918 by summary courts and 11 by garrison courts), embracing 613 different enlisted men, as against 880 trials by inferior courts-martial, embracing 582 different enlisted men, in preceding year.....	929
Acquittals.....	19
The offences for which these men were tried are classified as follows:	
Thirty-second article of war:	
Absence without leave.....	370
Thirty-third article of war:	
Failure to attend drills, stables, parades, roll calls.....	164
Thirty eighth article of war:	
Drunkenness on duty.....	52
Sixty-second article of war:	
Abusive, threatening, or obscene language.....	23
Assault.....	2
Disobeying noncommissioned officer.....	40
Disrespect or insubordinate conduct to noncommissioned officer.....	27
Drunkenness.....	79
Drunk and disorderly.....	50
Fighting and other disturbances.....	25
Introducing liquor into post.....	1
Neglect of duty.....	71
Disorders, etc., charged as "conduct to the prejudice of good order and military discipline" (not included under previous heads).....	31

Summary of punishments imposed by inferior courts-martial.

Amount of forfeitures.....	\$3,684.75
Number of days' confinement.....	2,115

Distribution of trials by general courts-martial.

Organization	Det	Band	A	B	C	D	E	F	G	H	I	K	L	Total
Ordnance Department.....	5													5
Hospital Corps.....	2													2
Second Cavalry.....					*1									1
Fourth Cavalry.....				11	4						2	10		27
Seventh Cavalry.....										*1				1
Fifth Artillery.....			2		3	11	1	3			2	7	6	44
First Infantry.....			2	1	7	1	2	1		3	2			19
Fourth Infantry.....						*1								1
Eleventh Infantry.....					*2					*1				3
Fifteenth Infantry.....					*1									1
Sixteenth Infantry.....					*2									2
Total.....														106

* Deserters from other departments.

Of the foregoing trials by general courts-martial—

	Men.	Trials.
Tried once.....	96	99
Tried twice.....	8	18
Total.....	104	117

Distribution of trials by inferior courts-martial.

Organization.	De- tached	Band.	A.	B.	C.	D.	E.	F.	G.	H.	I.	K.	L.	Total.
Hospital Corps	13													13
Fourth Cavalry				49	61						38	29		177
Fifth Artillery		6	50		43	61	41	56		37	41	41	41	437
First Infantry		18	50	21	20	27	23	33	45	64				301
Tenth Infantry					1									1
Total														929

Of the foregoing trials by inferior courts-martial—

	Men.	Trials.
Tried once	406	406
Tried twice	126	252
Tried three times	52	156
Tried four times	23	92
Tried five times	3	15
Tried six times	1	6
Total	613	929

A comparison with preceding year is submitted, as follows:

1893-94.

Average enlisted strength of the department..... 1,324
 Total number of trials (excluding deserters from other departments), embracing 712 different enlisted men..... 1,018

1894-95.

Average enlisted strength of the department..... 1,375
 Total number of trials (excluding deserters from other departments), embracing 703 different enlisted men..... 1,026

Applications by and for military prisoners for remission of sentence, and other official communications relating thereto..... 70
 Official reports received and acted on, inquiries answered and opinions given..... 95

**REPORT OF THE QUARTERMASTER-GENERAL
OF THE ARMY.**

REPORT

OF

THE QUARTERMASTER-GENERAL.

QUARTERMASTER-GENERAL'S OFFICE,
Washington, September 27, 1895.

SIR: I have the honor to submit the annual report of the Quartermaster's Department for the fiscal year ended June 30, 1895.

By acts of Congress approved August 6, 18, and 23, 1894, and March 1 and 2, 1895, there was appropriated for the service of the Quartermaster's Department, for the fiscal year 1894-95, the sum of	\$7, 964, 889. 95
By act approved February 12, 1895, there was appropriated for barracks and quarters, 1895-96, part available for fiscal year 1894-95...	750, 000. 00
During the fiscal year there was deposited to the credit of appropriations, 1894-95, amounts received from sales to officers, etc., the sum of	462, 616. 72

Making a total of	9, 177, 506. 67
Of this amount there was remitted to disbursing officers. \$6, 804, 190. 52	
There was paid out on account of settlements made at	
Treasury of claims and accounts.....	72, 380. 11
Amount carried to surplus fund, act June 20, 1874.....	11. 33
	6, 876, 581. 96

Leaving a balance available for payment of outstanding obligations incurred or fulfillment of contracts properly entered into within the fiscal year of.....	* 2, 300, 924. 71
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On the 1st of July, 1894, there was on hand from regular appropriations for the service of the Quartermaster's Department, pertaining to the fiscal year ended June 30, 1894, the sum of	1, 193, 216. 60
And from appropriations pertaining to previous fiscal years, including those for specific and indefinite purposes, the sum of.....	1, 174, 287. 57

Making a total balance on hand from all appropriations July 1, 1894, of	2, 367, 504. 17
For specific purposes there was appropriated during the fiscal year ended June 30, 1895	51, 4 7. 85
During the year there was deposited and transferred to credit of the appropriations other than those for 1894-95 (shown above), the sum of.....	564, 217. 31

Making a total of	2, 983, 199. 33
Of said amount there was remitted to disbursing officers	
the sum of	\$964, 359. 12
There was paid out on account of Treasury settlements	
and transferred the sum of	523, 342. 29
There was carried to the surplus fund the sum of.....	472, 402. 59
	1, 960, 104. 00

Leaving a balance of	1, 023, 095. 33
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* Including the sum of \$709,351 remaining from the \$750,000 appropriated for barracks and quarters by act of February 12, 1895, for fiscal year 1895-96.

Under existing laws the Quartermaster's Department, under the direction of the Secretary of War, provides the Army with military stores and supplies requisite for its use, such as clothing and equipage, tents, band instruments, tableware and mess furniture, equipments for post bakeries, fuel, forage, stationery, lumber, straw for bedding for men and animals, all materials for camp, and for shelter for troops and stores, furniture for barracks, such as bunks, benches, chairs, tables, lockers, heating and cooking stoves for use in public barracks and quarters, tools for mechanics and laborers in the Quartermaster's Department, furniture, text-books, papers, and equipment for post schools, reading matter for post libraries, wagons, ambulances, carts, saddles, harness, water supply, sewerage, plumbing, illuminating supplies, and heating for all military posts and buildings.

The Department is also charged with the duty of transporting, by land and water, troops, munitions of war, equipments, and all articles of military supplies from the place of purchase to the several armies, garrisons, posts, and recruiting places.

Under act of Congress amending section 1661, Revised Statutes, for arming and equipping the militia, this department supplies quartermaster stores, clothing, and equipage to the militia of the several States and Territories, and transports the same to said States and Territories. It also furnishes transportation for ordnance and ordnance stores issued by the United States to the militia of the several States and Territories. It also transports the property for other Executive Departments on requisitions, payments therefor being made by the respective departments to the carriers upon accounts forwarded through the Quartermaster-General's Office for that purpose.

This department prepares the necessary plans and constructs all buildings at military posts, such as barracks, quarters, storehouses, hospitals, etc., builds wharves, constructs and repairs roads for military purposes, builds all necessary military bridges, provides, by hire or purchase, grounds for military encampments and buildings; contracts for all horses for cavalry, artillery, and for the Indian scouts, and for such infantry and members of the hospital corps in the field campaigns as may be required to be mounted; pays for all incidental expenses of the military service which are not provided by other corps.

The care and maintenance of national cemeteries is an additional duty of this department. It also provides suitable headstones to mark the graves of all soldiers, sailors, or marines who served during the late war, including those who have been buried in private cemeteries and other burial places.

Section 1139, Revised Statutes, makes it the duty of the Quartermaster-General, under the direction of the Secretary of War, to prescribe and enforce a system of accountability for all quartermaster's supplies furnished the Army, its officers, seamen, and marines.

CLOTHING AND EQUIPAGE SUPPLIES.

The sum of \$1,200,000 was appropriated by Congress for this branch of the service for the past fiscal year. There was also placed to the credit of the appropriation for clothing and equipage during the fiscal year the sum of \$184,175.54 on account of issues to the militia, and the sum of \$111,215.93 from sales to officers, etc., making a total of \$1,495,391.47.

Of this amount the sum of \$992,472.72 was paid out during the year, leaving a balance on hand June 30, 1895, of \$502,918.75, which will be required to meet outstanding obligations under contracts entered into prior to July 1, 1895.

The issues to the militia of the several States and Territories during the fiscal year amounted to the sum of \$185,235.85.

The following issues were made during the fiscal year, which, with the sales credited to miscellaneous receipts, represents a total loss to the clothing appropriation:

To the militia of the District of Columbia.....	\$3,410.16
For Indian prisoners of war transferred from Mount Vernon Barracks, Ala., to Fort Sill, Okla.....	6,227.32
Sales of condemned and unserviceable clothing and equipage, less cost of sale	11,332.33
Sale of scrap leather at Fort Leavenworth Military Prison.....	433.17
Total	21,402.98

ISSUES TO INDIAN PRISONERS OF WAR.

During the fiscal year there were issued to the Indian prisoners of war and their families, transferred from Mount Vernon Barracks, Ala., to Fort Sill, Okla., clothing and equipage supplies to the value of \$6,227.32, quartermaster's supplies to the value of \$14,596.70, and for pay of interpreters and other necessary employees the sum of \$2,030, making a total charge against appropriations of this department for these Indians of \$22,854.02.

BROWN COTTON DUCK.

Difficulties have been encountered in finding an absolutely fast color for the brown cotton duck required for the manufacture of canvas fatigue clothing, leggings, barrack shoes, barrack bags, and canvas-lined overcoats, but it is expected that they will be overcome in pending and subsequent manufactures.

DRAB-COLORED CAMPAIGN HATS.

With a view to improve the drab-colored campaign hats for the enlisted men, orders were given to procure samples which would give better service than those heretofore supplied, by having a brim that would retain its shape, and making the color absolutely fast.

Samples possessing these qualities were obtained and sent out for trial, and from reports received it appears that they are satisfactory, and that the object sought has been attained. New standards and specifications have been adopted, and the hats to be procured hereafter will be of the improved kind.

FORAGE CAPS.

The Secretary of War having adopted a new pattern forage cap for both officers and enlisted men, and ordered that the same be introduced on January 1 next, a supply for the enlisted men will be ready for issue on the date mentioned.

OFFICERS' UNDRESS COATS.

Under the orders of the Secretary of War a change has been made in the officers' undress coat, which consists of the removal of the ornamentation of braid from the front, back, and sleeves of the coat, and the insignia to be worn on the collars of said coats have been so fixed as to distinctly show the organization to which the respective officers belong. As a distinguishing mark officers of the Army are required to wear the letters U. S. in gold, upon the collar of the coat, in contradistinction to the officers of the militia.

DARK-BLUE TROUSERS.

At the request of the Chief of Engineers and the Surgeon-General of the Army, orders have been promulgated changing the color of the trousers for the enlisted men of the Battalion of Engineers and the Hospital Corps. The former will hereafter wear dark-blue trousers and the latter sky-blue.

RUBBER CAPES AND PONCHOS.

The rubber capes sent to various posts during the last fiscal year for trial, with a view if found satisfactory to substitute them for the rubber ponchos and blankets, have from reports received not given the expected favorable results. The limited number purchased have been sold to officers at cost price.

An effort will be made to reduce the weight of the rubber poncho to such a minimum as to combine durability and lightness.

BAND INSTRUMENTS.

Dissatisfaction having arisen in many cases with instruments supplied to the Army bands under the general system of purchase upon established standards, due in part to individual preference for others than those adopted as standards, in part to musicians not well skilled in those instruments, and again to close competition in prices, resulting now and then in inferior instruments, the system of supply has been changed. Somewhat greater latitude is now given to individual preferences, the limit being for standard instruments of domestic production, and purchases are made directly upon the requisitions as received.

Such of the cavalry regiments as have submitted approved requisitions have been supplied with helicon-shaped instruments. The results of this change are entirely satisfactory to all concerned.

SERVICE COLORS AND STANDARDS.

With a view to protect the silken colors and standards carried by regiments from wear and tear incident to drills and while on the march it has been decided to furnish each foot regiment with a national color of bunting and each cavalry regiment with a standard, consisting of the Stars and Stripes, of bunting. This will prolong the life of the silken colors and standards very materially.

NATIONAL AND REGIMENTAL COLORS.

A change in the dimensions of the national and regimental colors carried by foot troops has been made whereby such colors shall hereafter be 5 feet 6 inches fly instead of 6 feet 6 inches and 4 feet 4 inches deep on the pike instead of 6 feet. Colors of the new dimensions will be supplied.

IMPROVEMENTS IN TENTS.

Improvements in conical wall tents have been made by this Department in supports and caps for ventilation and protection from snow and rain. Twelve have been equipped and sent out for trial by troops in active service. Letters patent have been granted that the use of the inventions may be secured to the Government without the payment of royalty thereon.

During the fiscal year the Army has been liberally and promptly supplied with all necessary articles of clothing and equipage, and the supplies procured and issued have been equal to standards and specifications.

TRANSPORTATION.

The Quartermaster's Department during the fiscal year furnished transportation for 434,500 persons, 4,357 animals, and 92,087 tons of material.

For the principal movements of troops in changing station there was expended the sum of \$174,923.39, exclusive of deductions on account of land-grant and bond-aided railroads.

The sum of \$8,361.44 was expended during the fiscal year for the transportation of troops in connection with summer encampments, practice marches, etc., and the sum of \$20,252.33 for the transportation of enlisted men to engage in target practice and rifle competition.

LABOR TROUBLES IN THE WEST.

In the summer of 1894 there occurred in the Western section of the country serious interference with transportation of the United States mails and suspension of public travel, caused by large bodies of men engaged in mob violence against those employed on the railroads, making it necessary to use the Army in the enforcement of law.

The many movements of troops to suppress these riots cost the appropriation for "transportation of the Army" the sum of \$221,985.35.

During the fiscal year there were transported over the bond-aided Pacific railroads, their branches, and leased lines 10,906 persons, 1,530 animals, and 20,101 tons of freight.

PAYMENT OF ACCOUNTS OF NON-BONDED LINES OF UNION PACIFIC.

The Honorable Secretary of the Treasury having on March 9, 1895, issued a circular affecting the settlement of the accounts of the non-bonded lines of the Union Pacific system, and the Comptroller of the Treasury on April 11, 1895, having decided that the provisions of this circular were intended to authorize payment in cash of the accounts of the non-bonded lines of the Union Pacific system named therein by disbursing officers, instructions were given by this office to disbursing quartermasters directing the method of procedure under the Treasury circular.

The eight steamboats owned by the Quartermaster's Department were kept in service during the year, at a cost including repairs, of \$77,639.30, and the sum of \$2,589.50 was also expended for the hire of vessels temporarily required.

Telegraphing for the Army has been performed under the new schedule of the Postmaster-General, promulgated July 6, 1894, and has been paid for by the disbursing quartermasters charged with that duty.

PURCHASE OF CAVALRY AND ARTILLERY HORSES.

The average cost of cavalry horses for the fiscal year was \$95.44 and for artillery horses \$148.04.

The supply of horses under the contract system continues to give general satisfaction.

The standard has been greatly improved since the system was adopted and it is expected that it will be still further improved as the supply under the amended specifications becomes general. The cavalry mount of to-day excels that of any previous time and all information shows it to be superior to that in foreign armies. It is well known that many horses for foreign service are purchased in this country, and it is within the knowledge of this office that many animals rejected by this department have been accepted by the purchasing agents of foreign governments for foreign service.

DRAFT ANIMALS.

The peaceful condition of the country, resulting from cessation of Indian wars and hostilities on the Rio Grande, rendered it unnecessary to further maintain post transportation on a field-campaign basis. Orders were accordingly issued October 10, 1894, fixing a new allowance of draft and pack animals for the several military departments and directing the sale of all surplus animals.

This change has resulted in a reduction of about 1,100 animals, which, with the wagons, harness, teamsters, hostlers, stables, and miscellaneous stable utensils, together with the forage and bedding heretofore required for the animals, will effect a large saving to the appropriations.

Thirty-four team horses and 102 mules were purchased at a cost of \$17,399.55.

The average cost of team horses was \$167.83 and mules \$114.64.

During the fiscal year there were sold, died, etc., 1,422 cavalry and artillery horses, 84 team horses, and 1,088 mules, leaving on hand at the close of the year 6,189 cavalry and artillery horses, 247 team horses, and 3,040 mules.

ROADS, WALKS, ETC.

The sum of \$127,778.39 was expended for roads, walks, grading, and bridges; \$30,926.33 for wharves, and \$235,845.31 for plumbing, water supply, sewerage, and drainage.

REGULAR SUPPLIES.

The sum of \$95,802.76 was expended for lighting, heating, and cooking apparatus, and \$30,385.22 for tableware and kitchen utensils.

BARRACKS AND QUARTERS.

The act of Congress approved August 6, 1894, provided the sum of \$650,000 for barracks and quarters. This sum was expended during the fiscal year in the construction of officers' quarters, barracks, storehouses, stables, etc., for the repair and alteration of buildings, and for rent, etc.

The buildings at the military posts are inadequate to meet the needs of the service, owing to the insufficiency of the appropriations made therefor. Over one-half of the total appropriation was expended during the year for repairs and alterations, and for rent. At many posts the buildings were originally constructed to meet temporary emergencies. Some of them are soon to be abandoned. Others could be replaced by new buildings at less cost than to remodel and repair the old ones.

The recent movement of troops changing station has resulted in the overcrowding of quarters at many posts, and the present appropriation is insufficient to relieve this condition. Increased appropriations are absolutely necessary.

There was also expended during the year, from the appropriation made for the purpose, the sum of \$44,919.20 for the construction and repair of hospitals at military posts, which includes the new hospitals in course of erection at Fort Barrancas, Fla., and Fort McHenry, Md.

From the appropriation of \$25,000 provided by act of Congress approved March 2, 1895 (fiscal year ending June 30, 1896), to be immediately available, a new hospital is being constructed at Fort Meade, S. Dak., at a cost under present contracts, which includes hot-water heating, plumbing, and gas-piping, of \$23,113.

The sum of \$6,969.30 was expended for the construction and repair of hospital stewards' quarters, and the sum of \$14,302.95 for shooting galleries and expenses incident thereto, \$4,302.95 of this latter sum being used in the construction of a permanent rifle range at Fort Snelling, Minn., as required by law.

MILITARY POSTS.

There was appropriated by act of Congress approved August 18, 1894, the sum of \$200,000 "for the construction of buildings at and the enlargement of such military posts as in the judgment of the Secretary of War may be necessary," and with the balance of \$110,968.11 remaining on hand from prior appropriations, together with the sum of \$15,358.53 originally charged against "military posts" and subsequently made chargeable to "barracks and quarters," and the sum of \$204.22 saved from previous allotments to Fort Crook, Fort Bliss, and Madison Barracks, an aggregate of \$326,530.86 was available during the fiscal year for the purpose.

Of the above sum the following apportionment was made:

Fort Crook, Nebr.....	\$70,058.75
Presidio of San Francisco, Cal.....	34,941.27
Fort Myer, Va.....	45,600.00
New post near Little Rock, Ark.....	116,600.03
Jefferson Barracks, Mo.....	14,620.00
Plattsburg Barracks, N. Y.....	21,383.80
Fort Bliss, Tex. (reconstruction).....	9,000.00
Fort Yates, N. Dak.....	500.00
Philadelphia Depot, Pa.....	550.00
Fort Trumbull, Conn.....	400.00

Madison Barracks, N. Y.....	\$119. 76
Fort Wayne, Mich.....	76. 61
Fort Thomas, Ky.....	108. 23
Columbus Barracks, Ohio.....	133. 00
Fort Harrison, Mont.....	109. 35
Fort Ethan Allen, Vt.....	81. 00
Fort Sheridan, Ill.....	11, 759. 27
Balance June 30, 1895.....	489. 79

Total 326, 530. 86

The buildings authorized at the above posts are either in course of erection or under contract.

In the interests of economy it is necessary that the appropriation for military posts be largely increased.

For years the appropriation for the construction of barracks and quarters has been insufficient. One-half or more of this sum has annually to be used in repairs and alterations, and it is apparent the work of constructing buildings at the new military posts must be delayed. In addition, the lack of suitable buildings retards the concentration of troops at the posts assigned to them. The early completion of buildings at the new posts would enable the Department to dispense with the old structures, which were never adequate.

PRESIDIO OF SAN FRANCISCO, CAL.

The planting and cultivation of trees on the Presidio Reservation, and the necessary repairs to fences, have been continued during the year.

The cost of construction of roadway from First to McDowell avenues, by way of new pumping station, has been contracted for, and is now in progress, at a cost of \$7,595.

It is earnestly recommended that the estimate of \$25,000 for continuing the improvements on the Presidio Reservation be granted. The sums already granted have produced the most gratifying results. The reclamation of the sand dunes and marshes should not be delayed, while the planting of trees, the construction of a boundary wall, roadways, and the development of the water supply should be continued.

COLUMBUS BARRACKS, OHIO.

By act approved February 12, 1895, making appropriation for the support of the Army for the fiscal year ending June 30, 1896, the sum of \$100,000 was allotted by Congress from the sum appropriated under the head of "barracks and quarters" to be immediately available for improvements, barracks, officers' quarters, and other buildings at Columbus Barracks.

Under authority of this law the following work has been authorized and contracted for:

One double set noncommissioned staff officers' quarters	\$3, 200
Eight sets bachelor officers' quarters	17, 230
Infantry drill hall	19, 900
Three double sets officers' quarters.....	34, 000
Quartermaster's storehouse.....	4, 470
Guardhouse	13, 787

Total 92, 587

For plumbing, heating, and gas-piping in these buildings an expenditure of \$12,480.70 has been authorized.

DAMAGE BY STORMS.

On April 5, 1895, the post of Fort Bliss, Tex., was visited by a severe windstorm, which caused damage to the buildings at that post amounting, approximately, to \$20,715. Work of repairing the buildings was at once commenced, and they will soon be ready for occupancy.

RESERVATIONS.

The sale of the land at northwest corner of Penn avenue and Garrison alley, Pittsburg, Pa., authorized by act of Congress approved May 21, 1890, was made at public auction November 8, 1894, to Charles McKnight, for \$215,000. This sum, after deducting expenses of sale (\$440.55), was deposited in the Treasury to the credit of miscellaneous receipts.

The appropriation of \$16,500, made by act of June 27, 1890, for purchase of land for target ranges at Fort McPherson, Ga., still remains unexpended, no definite site fulfilling needed requirements having as yet been determined upon.

Under the terms of act approved July 8, 1886, the ground comprising old Fort Brady, Mich., authorized to be sold, was duly platted, appraised, etc., and under public advertisement the buildings and old fencing located thereon were sold at auction October 25, 1893, for the sum of \$2,072.50.

Since October 24, 1893, 23 lots have been sold at public auction and private sale (at not less than appraised value), the total amount realized being \$22,670.31, which sum, less cost attending sales, has been deposited in the Treasury.

The unsold lots are in charge of the post quartermaster, Fort Brady, Mich., to whom application for purchase is made.

Under the act approved March 1, 1890, the military reservation of old Fort Bliss, Tex., was platted, appraised, and advertised to be sold March 5, 1894, but sale was postponed pending action upon certain bills then before Congress.

Congress, by act approved August 18, 1894, appropriated \$7,000 for acquiring additional lands, not exceeding 190 acres, at Fort Ethan Allen, Vt. The owner of the desired grounds not being willing to sell for the sum appropriated, the Department of Justice has been requested to secure title by condemnation proceedings.

Under the act of Congress approved May 6, 1894, providing \$8,500 for the purchase of land for target range at Sacketts Harbor, near Madison Barracks, N. Y., 805.91 acres at Stony Point, 16 miles from Madison Barracks, have been purchased.

The purchase of Fort Brown, Tex., reservation, under the authority of the act approved March 3, 1885, has been consummated. The Department of Justice having rendered opinion that complete title is vested in the United States, the \$160,000 granted by the act referred to was paid on April 26, 1895, by check of the depot quartermaster, this city, to the order of James Stillman and Thomas Carson, as administrators of the estate of Maria Josefa Cavazos, deceased. The money was paid unconditionally and in full settlement of all claims of every description against the United States on account of this reservation.

The lands and buildings known as Mount Vernon Barracks, Ala., under authority of act approved March 1, 1895, were, on April 10, 1895, relinquished to the State. Also all right, title, and interest of the

United States in the property known as Newport Barracks, Ky., under act of Congress approved July 31, 1894, was, on January 1, 1895, transferred to the city of Newport, Ky.

The following reservations have been transferred to the Interior Department:

The reservation on the west side of Narrows of Puget Sound, at south-side entrance of Gig Harbor, 582.1 acres.

The reservation on the west side of Narrows of Puget Sound, 637.4 acres.

The reservation on west side of Narrows of Puget Sound south of Point Evans, 635 acres.

The reservation on the north side of Gig Harbor at Narrows of Puget Sound, 539.33 acres.

Fort Sully, S. Dak., 25,984 acres.

Fort Bowie, Ariz., 23,040 acres.

Fort McKinney, Wyo., 24,960 acres.

Fort Sidney, Nebr., 620 acres. Also the wood and timber reservation, 28 miles distant from the post, 3,195 acres.

Fort Supply, Okla., 40,320 acres.

Depot McKinney, Wyo., military reservation.

"Council Grove," Okla., military timber reservation, heretofore set apart for use of Fort Reno.

Fort Stevenson, N. Dak.

Fort Lewis, Colo.

Fort Townsend, Wash.

Fort Marcy, N. Mex.

NATIONAL CEMETERIES.

There are 83 national cemeteries and 75 authorized superintendents.

The necessary repairs to the lodges, outbuildings, inclosing walls, drives, walks, etc., at the various cemeteries have been made during the fiscal year and the grounds kept in good condition.

During the year 7,340 white marble headstones were provided to mark the graves of Union soldiers, sailors, and marines buried in national, post, city, and village cemeteries.

The sum of \$19,454.88 was expended in necessary repairs to roadways to national cemeteries, which were constructed by special authority of Congress.

The work of marking by monuments and tablets the positions occupied by each of the commands of the Regular Army on the Gettysburg battlefield and the construction of approaches thereto have been completed. All further work has been transferred to the Gettysburg Commission.

From an examination of the records it appears that the appropriations made by Congress for the establishment, maintenance, and improvement of national cemeteries, including pay of superintendents, headstones, monuments, purchase of sites, and construction and repair of roadways, from their inception to June 30, 1895, amounted in the aggregate to the sum of \$8,165,636.47.

MARKING GRAVES AND ERECTION OF MONUMENT ON CRAB ISLAND, NEW YORK.

In 1892 the citizens of Plattsburg, N. Y., donated to the United States a tract of land embracing 40 acres, known as Crab Island, occupied by the American forces as a hospital and convalescent camp both before and after the land and naval engagements from September 6 to 11, 1814. After the naval engagement of September 11 the American dead of that battle, numbering 52, and the British dead, numbering 84, were buried in one common grave. The island having been the general hospital not only for the desperately wounded men of the naval

engagement but also for the sick and wounded of the land forces, there must have been many more buried there of whom no record exists. The island has not been occupied since the war of 1812, and is now thickly grown with timber and underbrush. It is probable that the remains of 500 persons formerly connected with the American and British forces are buried there. No attempt has ever been made to mark the graves of these men. As the island is now the property of the United States, it is recommended that a special appropriation of \$15,000 be asked from Congress, of which \$10,000 should be expended in suitably marking the graves and erecting a monument and \$5,000 for clearing up, parking, and building a wharf to accommodate boats of moderate tonnage.

APPROACHES TO ARLINGTON NATIONAL CEMETERY.

The necessity for improving the public roads to the Arlington National Cemetery and Park is again earnestly urged upon Congress, and it is hoped that a bill similar in terms to H. R. 7203, Fifty-third Congress, second session, "To improve the public roads from the Aqueduct Bridge, near Georgetown, to the Arlington National Cemetery," reported by the House Committee on Military Affairs May 24, 1894, will be passed at the coming session.

Estimates made by engineers of the War Department for the construction of good macadamized roads of a substantial and durable character fix the cost at \$50,000.

MEMORIAL BRIDGE.

In this connection I renew my recommendations of previous years that an appropriation be made by Congress for the construction of a bridge over the Potomac between the Naval Observatory grounds and the Arlington Reservation, which will furnish a short and direct route to the cemetery and park and afford rapid communication between the capital and the large military post of Fort Myer, Va. This important matter should no longer be delayed, and it is hoped that a bill similar to H. R. 8232, Fifty-third Congress, third session, reported by Mr. Durborow, from the Committee on Interstate and Foreign Commerce, January 30, 1895, will be passed at the approaching session.

HALL OF RECORDS.

I again urgently recommend the erection of a suitable fireproof building to contain the records of all Executive Departments. Further delay may cost the Government many thousands of dollars. The congested condition of the space for the storage of valuable papers in the War Department calls for immediate action, and it is earnestly hoped that Congress at the coming session will authorize the construction of such a building.

Its location is of great importance, and it should be within convenient access to all the Executive Departments. I renew my previous recommendation that a site be selected either on Seventeenth street, south of the new Corcoran Art Gallery, south of Pennsylvania avenue on Fifteenth street, or on square No. 169, bounded by F, G, Seventeenth, and Eighteenth streets. The Government already owns three-eighths of this block, on which there are at present old and unsafe buildings. The purchase of the remainder of the square and the erection

thereon of a six or eight story fireproof structure would give ample space for records in the first and second stories, while the other stories would furnish office rooms for all the Departments that now occupy rented buildings.

My sincere thanks and acknowledgments are due to the officers and employees of the Quartermaster's Department for their zealous and intelligent assistance in the discharge of the multifarious duties devolving upon this Department.

Attention is invited to the accompanying reports of the officers on duty in this office.

Respectfully,

R. N. BACHELDER,
Quartermaster-General, United States Army.

Hon. DANIEL S. LAMONT,
Secretary of War

List of papers accompanying the annual report of the Quartermaster-General for the fiscal year ended June 30, 1895.

1. Report of Col. George H. Weeks, assistant quartermaster-general, U. S. A., of the operations of the correspondence and examining division (which includes finance, inspection, money and property accounts, clothing returns, and clothing supply) for the fiscal year ended June 30, 1895.

A. Statement showing articles of clothing and equipage and material on hand at the issuing depots of the Quartermaster's Department, June 30, 1894, the quantities purchased, manufactured, received from posts and depots, taken up, sold, transferred to general depots, expended, issued to the Army and the militia, and the quantities remaining in depots June 30, 1895.

2. Report of Maj. Charles Bird, quartermaster, U. S. A., of the operations of the supply and transportation division (which includes regular supplies and transportation) for the fiscal year ended June 30, 1895.

3. Report of Capt. Crosby P. Miller, assistant quartermaster, U. S. A., of the operations of the construction and repair division (which includes barracks and quarters and reservations) for the fiscal year ended June 30, 1895.

A. Statement giving list of reservations turned over by the War Department to the Interior Department, or otherwise disposed of by the War Department, from 1858 to June 30, 1895.

B. Statement showing military reservations, giving location, size, how occupied, etc., on June 30, 1895.

4. Report of Capt. Oscar F. Long, assistant quartermaster, U. S. A., of the operations of the mail and record division (which includes mail and record, records, files, and claims, and national cemeteries) for the fiscal year ended June 30, 1895.

A. Statement of disbursements of appropriations for national cemeteries during the fiscal year ended June 30, 1895.

B. Statement showing national cemeteries, giving class, location, size, number of interments, etc., on June 30, 1895.

WAR DEPARTMENT,
QUARTERMASTER-GENERAL'S OFFICE,
Washington, D. C., August 15, 1895.

GENERAL: I have the honor to submit a report of the operations of the correspondence and examining division of this office for the fiscal year ended June 30, 1895, which will be considered in the following order of business:

Finance, inspection, money and property accounts, clothing and equipage returns, and clothing and equipage supplies.

FINANCE.

Under this head all matters are considered relating to the procurement and distribution of funds, the compilation and preparation for Congress of the annual estimates of funds for the service of the Quartermaster's Department, and for funds required for the Quartermaster-General's Office, the examination of estimates of funds received from disbursing officers and the issue of requisitions in favor of such disbursing officers; the action upon settlements made at the Treasury of claims and accounts pertaining to the Quartermaster's Department.

Financial statement for fiscal year ended June 30, 1895.

[From the balance books upon which all debits and credits are recorded.]

Appropriated.		Placed to credit of appropriations during the year, being the proceeds of sales to warrant, etc.				Total to be accounted for	Remitted to discharging officers.	Requisitions issued on settlements made at Treasury of claims and accounts.	Amounts charged against appropriations by Treasury for war trunks.	Amounts carried to surplus fund, act June 20, 1874.	Balance in Treasury undrawn June 30, 1895, and available for outstanding obligations.	Total accounted for
Appropriations.	Balance in Treasury undrawn July 1, 1894	Amount.	Date of act									
1889-90.												
Transportation of the Army and its supplies.	\$87 00					\$87 00				\$87 00		\$87 00
1890-91.												
Construction and repair of hospitals	402 77					402 77				402 77		402 77
1892 and prior years.												
Regular supplies				\$658 56		658 56				658 56		658 56
Incidental expenses				33 43		33 43				33 43		33 43
Horses for cavalry and artillery				238 00		238 00				238 00		238 00
Transportation of the Army and its supplies				1,101 59		1,101 59				1,101 59		1,101 59
Clothing, camp and garrison equipment				97 85		97 85				97 85		97 85
Construction and repair of hospitals				5 16		5 16				5 16		5 16
National cemeteries				40 19		40 19				40 19		40 19
Quarters for hospital stewards				.60		.60				.60		.60
Total				2,175 38		2,175 38				2,175 38		2,175 38
1893 and prior years, transferred.												
Regular supplies				463 23		463 23				463 23		463 23
Incidental expenses				68 79		68 79				68 79		68 79
Barracks and quarters				5 00		5 00				5 00		5 00

[illegible]

Financial statement for fiscal year ended June 30, 1895—Continued.

Appropriations	Balance in Treasury undrawn July 1, 1894.	Appropriated.		Placed to credit of appropriations during the year, being the proceeds of sales to officers, etc.	Total to be accounted for	Remitted to discharging officers.	Requisitions issued on settlements made at Treasury of claims and accounts.	Amounts charged against appropriations by Treasury for warrants.	Amounts carried to surplus fund, act June 20, 1874.	Balance in Treasury undrawn June 30, 1895, and available for outstanding obligations.	Total accounted for.
		Amount.	Date of act.								
1893-94.											
Shooting galleries and ranges				\$435.86	\$435.86	967.19				\$338.76	\$435.86
Quarters for hospital steward	\$11.32			57.61	68.94	9.12	\$12.00			47.81	68.94
Total	1,193,216.60			212,671.32	1,405,887.92	517,890.47	87,413.70			800,583.76	1,405,887.92
1894-95											
Regular supplies	\$2,400,000.00	Aug. 6, 1894		124,147.40	2,524,147.40	2,133,822.34	467.94			390,856.21	2,524,147.40
Incidental expenses	600,000.00	do		10,801.80	610,801.80	577,182.64	12.38			33,606.87	610,801.80
Horses for cavalry and artillery	100,000.00	do		50.90	100,050.90	96,168.20	45.09			22,887.79	100,050.90
Barracks and quarters	650,000.00	do		2,474.84	652,474.84	570,701.01				82,773.03	652,474.84
Transportation of the Army and its supplies	2,500,000.00	do		17,053.19	2,517,053.19	2,005,952.10	39,597.76			471,513.32	2,517,053.19
Clothing, camp and garrison equipment	1,200,000.00	do		255,263.90	1,455,263.90	991,715.06	734.74			562,921.18	1,455,263.90
Construction and repair of hospitals	45,000.00	do		730.39	45,730.39	25,850.13				9,880.27	45,730.39
Pay of superintendents of national cemeteries	100,000.00	Aug. 18, 1894		148.87	100,148.87	96,130.86				14,027.85	100,148.87
Shooting galleries and ranges	61,880.00	do		190.00	62,070.00	61,280.45				789.51	62,070.00
Quarters for hospital steward	15,000.00	Aug. 6, 1894		215.05	15,215.05	15,304.62				10.43	15,215.05
Land for rifle range near Madison Barracks, N. Y.	7,000.00	do		380.92	7,380.92	7,392.80				38.12	7,380.92
Military posts	8,500.00	do			8,500.00	8,500.00					8,500.00
Repairing roads to national cemeteries	200,000.00	Aug. 18, 1894			200,000.00	175,770.82				24,229.18	200,000.00
Burial of indigent soldiers.	8,000.00	do			8,000.00	4,628.28				1,371.72	8,000.00
	2,000.00	do			2,000.00	1,000.00				2,000.00	2,000.00

Headstones for graves of soldiers	25,000.00	do			25,000.00	1.63			14,667.13	25,000.00
Road to the national cemetery, Presidio of San Francisco, Cal	10,000.00	do			10,000.00					10,000.00
Total	7,933,380.00		462,616.72		8,395,996.72	40,881.49			1,591,573.71	8,395,996.72
1895 and 1896.										
Barracks and quarters	750,000.00	Feb. 12, 1895			750,000.00	40,649.00			709,351.00	750,000.00
Certified claims.										
Regular supplies	3,904.95	Aug. 23, 1894			4,018.65					4,018.65
Incidental expenses	113.70	Mar. 2, 1895								
Horses for cavalry and artillery	586.63	Aug. 23, 1894			2,645.36		\$10.00			2,645.36
Barracks and quarters	2,058.73	Mar. 2, 1895			1,061.43					1,061.43
Transportation of the Army and its supplies	540.09	Aug. 23, 1894			9,676.30					9,676.30
Clothing, camp and garrison equipage	521.43	Mar. 2, 1895			13,595.76		1.33		1,011.82	14,608.91
National cemeteries	9,629.64	Aug. 23, 1894			190.00					190.00
Road from Marietta to the national cemetery	46.66	Mar. 2, 1895			62.19					62.19
Transportation of officers and their baggage	12,452.94	Aug. 23, 1894			16.06					16.06
Army and Navy Hospital, Hot Springs, Ark.	1,144.15	Mar. 2, 1895			154.60					154.60
50 per cent of arrears of Army transportation due certain land-grant railroads	70.00	Aug. 23, 1894			48.81					48.81
	120.00	Mar. 2, 1895								
	62.19	Aug. 23, 1894			39.46					39.46
Total	31,509.95				32,521.77	31,498.62	11.33		1,011.82	32,521.77
Indefinite or special.										
Additional lands, Fort Ethan Allen Military Reservation	7,000.00	Aug. 18, 1894			7,000.00				7,000.00	7,000.00
Advertising, etc., sale of land at Pittsburgh, Pa.	4,356.07	Aug. 23, 1894			4,356.07					4,356.07
Battle lines and sites for tablets at Antietam			746.27		27,056.27					27,056.27
Burial of indigent soldiers	26,310.00				502.57				2.57	502.57
Bellevue rifle range, Omaha, Nebr.	500.00	Aug. 23, 1894			1,800.00					1,800.00

Financial statement for fiscal year ended June 30, 1895.—Continued.

Appropriations.	Appropriated.		Placed to credit of appropriations during the year, being the proceeds of sales to officers, etc.	Placed to credit of appropriations by Treasury transfer to warrants.	Total to be accounted for.	Requited on account of claims for war-risks.	Amounts charged against appropriations by Treasury for war-risks.	Amounts carried to surplus fund, set June 30, 1894.	Balance in Treasury undrawn June 30, 1895, and available for outstanding obligations.	Total accounted for.
	Balance in Treasury undrawn July 1, 1894.	Amount. Date of act.								
<i>Indefinite or special.—Cont'd.</i>										
Headstones for graves of soldiers.....	\$29,791.96		\$27.97		\$29,819.93	\$11,507.95	\$377.25		\$17,311.98	\$29,819.93
Hospital, Fort Meade, S. Dak.....		\$25,000.00 Mar. 2, 1895			25,000.00				25,000.00	25,000.00
Military posts near Newport, K. V., buildings.....	104,133.43		24,297.19	\$119,344.57	246,777.90	119,368.15	18,360.81		109,050.94	246,777.90
Military post, Fort Sidney, Nebr.....	13,339.51				13,339.51		\$18,339.51			13,339.51
Military post, Atlanta, Ga.....	15,004.86				15,004.86		15,004.86		15,004.86	15,004.86
Military post, Fort Snelling, Minn.....	75,000.00				75,000.00		75,000.00		75,000.00	75,000.00
Military post, Helena, Mont.....	15,000.00				15,000.00		15,000.00		15,000.00	15,000.00
Military storehouse, Omaha, Nebr.....	89,000.00				89,000.00	88,900.09			88,900.09	89,000.00
Monuments or tablets at Gettysburg.....	35,000.00				35,000.00	26,792.37			11,218.13	35,000.00
Purchase of buildings at military posts.....	2,786.50				2,786.50		2,786.50		2,786.50	2,786.50
Purchase of land for target ranges, Fort McPherson, Ga.....	9,977.48				9,977.48				9,977.48	9,977.48
Purchase of Fort Brown Reservation.....	16,500.00				16,500.00				16,500.00	16,500.00
Reconstructing bridge, Niobrara River, Nebr.....	180,000.00				180,000.00	180,000.00				180,000.00
Road to the national cemetery, Presidio of San Francisco, Cal.....	7,000.00				7,000.00	6,942.16			57.84	7,000.00
Road to the national cemetery at Hampton, Va.....	11,770.00				11,770.00	1,770.00	5.50		9,994.50	11,770.00
Repairing roads to national cemeteries.....	2,000.00				2,000.00				2,000.00	2,000.00
	19,452.51		180.05		19,632.56	13,438.26			5,194.30	19,632.56

Road from national cemetery near Mound City to Mound City Junction, Ill.						25.90				25.90	25.90
Remodeling Old Produce Exchange Building, New York City						344.72			\$344.72		344.72
Sewerage system, Fortress Monroe, Va.	8,407.50									4,800.00	8,407.50
Water supply, Fort D. A. Russell, Wyo.		2,958.15								2,808.65	2,958.15
Witherby and Gaffney, relief of.	5,414.28										5,414.28
Total indefinite	51,477.85	634,028.23		118,344.37		829,494.61	434,505.46	25,957.44	344.72	221,499.75	829,494.61
Army transportation, Pacific roads.											
1892 and prior years						8.67					8.67
1893						58.90					70,259.74
1894						132.27					97,037.27
1895											19,638.76
Total						199.84					186,944.44
Grand total	8,766,367.80	2,367,504.17		306,727.69		12,160,706.00	7,768,549.64	445,968.36	472,413.92	3,324,020.04	12,160,706.00

NOTE.—The records of this office show that of the amounts appropriated for "claims for quartermaster stores and commissary supplies," acts of May 1, 1882, and March 3, 1887, \$252.75 and \$70, respectively, have been paid on settlements made at the Treasury.

The records of this office show the following amounts remitted from regular and from indefinite or special appropriations:

Remitted from regular appropriations.

Department, etc.	Regular supplies.	Inci- dental expenses	Horses for cav- alry and artillery.	Barracks and quarters.	Transpor- tation of the Army and its supplies.	Clothing and garrison equipage.
Department of the East	\$317,453.56	\$75,916.70	.....	\$124,110.76	\$220,111.43	\$326.20
Department of the Missouri	283,303.09	62,896.60	\$1,515.00	61,221.60	271,999.56	107.88
Department of Texas	195,199.24	33,148.96	6,051.18	37,139.41	97,618.77	10.00
Department of the Platte	171,069.04	38,821.25	.....	25,220.83	116,498.64	314.11
Department of Dakota	345,156.71	49,194.68	165.00	37,441.02	223,352.60	1,519.50
Department of California	98,928.01	27,468.02	6,041.14	21,431.22	88,402.01	62.00
Department of the Colorado	317,801.37	43,179.95	3,754.78	43,253.93	306,607.81	26.75
Department of the Columbia	101,144.71	25,686.38	.....	16,352.53	73,856.48	30.00
Depot at New York	64,650.26	34,721.18	4,382.00	3,260.38	150,631.52	1.75
Depot at Philadelphia	28,659.89	27,191.18	.....	3,345.35	58,969.09	765,241.28
Depot at San Francisco	10,732.91	19,665.57	.....	13,552.05	30,824.02	56,164.47
Depot at St. Louis	5,768.68	14,986.61	44,163.10	3,259.32	94,399.49	5,926.03
Depot at Washington	33,301.79	25,296.99	.....	32,721.63	66,349.92	.....
Depot at Jeffersonville	48,210.64	19,585.20	.....	500.00	56,762.00	156,043.34
Columbus Barracks, Ohio	7,456.95	2,285.17	.....	22,081.44	12,710.48	.....
Dauids Island, New York Harbor	326.14	1,462.29	.....	3,277.48	4,874.23	.....
Jefferson Barracks, Mo	9,602.61	4,176.52	.....	38,755.22	5,169.88	.....
Plattsburg Barracks, N. Y	10,455.98	8,227.22	.....	33,672.63	23,104.24	.....
Madison Barracks, N. Y	725.36	3,547.45	.....	9,153.01	11,338.71	.....
Fort Bliss, Tex .....	.....	333.33	.....	18.00	58.90	.....
Fort Crook, Nebr	4,976.44	2,656.07	.....	532.12	257.65	.....
Fort Ethan Allen, Vt	5,424.93	5,678.71	36.00	12,481.29	9,712.68	.....
Fort Harrison, Mont	7,170.86	5,934.00	.....	19,885.68	14,798.56	.....
Fort McPherson, Ga	1,383.70	3,625.00	.....	300.00	185.00	.....
Fort Riley, Kans	2,149.88	3,558.50	.....	.....	1,296.75	.....
Fort Sheridan, Ill	46.50	3,321.16	.....	240.00	1,901.75	.....
Fort Thomas, Ky	5,563.85	4,195.84	.....	3,233.54	5,076.18	.....
Fort Wayne, Mich	2,715.00	4,922.60	.....	552.42	5,466.40	.....
Hot Springs, Ark	4,959.43	2,223.92	.....	326.15	1,407.22	.....
Little Rock, Ark	3,881.07	4,065.95	.....	280.00	37,132.30	.....
Los Angeles, Cal .....	.....	1,200.00	.....	.....	.....	.....
Military prison, Fort Leaven- worth, Kans	7,254.54	2,189.18	.....	.....	1,429.04	5,925.57
Powder depot, Dover, N. J	135.35	.....	.....	.....	.....	.....
Springfield Armory, Mass	2,038.92	330.00	.....	.....	.....	.....
West Point, N. Y	25,235.82	10,849.33	.....	1.47	4,836.82	1.00
Willets Point, N. Y	1,091.48	3,948.71	.....	3,100.53	4,357.07	16.00
Allegheny Arsenal, Pa	500.95	3.00	.....	.....	60.00	.....
Augusta Arsenal, Ga	810.61	35.65	.....	.....	168.96	.....
Benicia Arsenal, Cal	1,825.16	155.75	.....	.....	497.00	.....
Columbia Arsenal, Tenn	849.52	22.00	.....	.....	66.69	.....
Frankford Arsenal, Pa .....	.....	.....	.....	.....	1,014.96	.....
Indianapolis Arsenal, Ind	348.01	.....	.....	.....	.....	.....
Kennebec Arsenal, Me	1,300.00	30.00	.....	.....	75.00	.....
Rock Island Arsenal, Ill	1,041.65	154.10	.....	.....	1,116.38	.....
Watertown Arsenal, Mass	1,953.53	139.63	.....	.....	998.73	.....
Watervliet Arsenal, N. Y	1,219.23	152.29	.....	.....	457.18	.....
Total	2,133,823.34	577,182.64	66,108.20	570,701.01	2,005,952.10	991,715.98

Remitted from regular appropriations—Continued.

Department, etc.	Construc- tion and repair of hospitals.	National ceme- teries.	Pay of superin- tendents of nation- al ceme- teries.	Shooting galleries and ranges.	Quarters for hospital stewards.	Military posts.
Department of the East	\$19,050.64			\$1,790.45	\$4,272.79	
Department of the Missouri.....	3,380.26	\$15.00		1,767.43	579.50	
Department of Texas.....	2,871.98	225.00		1,365.48	559.75	
Department of the Platte.....	995.00			290.15	235.45	
Department of Dakota	3,510.62			5,068.02	319.81	
Department of California.....	491.65			355.30	208.44	\$20,031.81
Department of the Colorado.....	4,201.41			1,668.60	744.93	
Department of the Columbia.....	480.54			282.09	140.32	
Depot at New York		1,389.32	\$900.00			
Depot at Philadelphia		3,677.12	2,472.33			
Depot at San Francisco.....		983.49	720.00			
Depot at St. Louis		9,441.60	10,020.00			
Depot at Washington.....	10.10	36,912.72	21,219.66			17,500.00
Depot at Jeffersonville		1,974.14	3,817.50			
Columbus Barracks, Ohio.....						12.00
Davids Island, New York Harbor.	71.42					
Jefferson Barracks, Mo					160.00	
Plattsburg Barracks, N. Y.....						20,061.80
Madison Barracks, N. Y.....						
Fort Bliss, Tex.....						
Fort Crook, Nebr.....				1,467.10		39,268.60
Fort Ethan Allen, Vt.....				1,250.00		81.00
Fort Harrison, Mont.....						109.35
Fort McPherson, Ga.....		31,206.99	21,540.00			
Fort Riley, Kans.....						
Fort Sheridan, Ill.....						
Fort Thomas, Ky.....						48.23
Fort Wayne, Mich.....						7,500.00
Hot Springs, Ark.....	786.50					
Little Rock, Ark.....						71,158.03
Los Angeles, Cal.....						
Military prison, Fort Leaven- worth, Kans.....						
Powder depot, Dover, N. J.....						
Springfield Armory, Mass.....						
West Point, N. Y.....						
Willeys Point, N. Y.....					41.81	
Allegheny Arsenal, Pa.....						
Augusta Arsenal, Ga.....						
Benicia Arsenal, Cal.....						
Columbia Arsenal, Tenn.....						
Frankford Arsenal, Pa.....						
Indianapolis Arsenal, Ind.....						
Kennebec Arsenal, Me.....						
Rock Island Arsenal, Ill.....		295.50				
Watertown Arsenal, Mass.....						
Watervliet Arsenal, N. Y.....						
Total	35,850.12	86,120.88	61,289.49	15,304.62	7,232.80	175,770.82

Remitted from regular appropriations—Continued.

Department, etc.	Repairing roads to national cemeteries.	Land for rifle range near Madison Barracks, N. Y.	Head- stones for graves of soldiers.	Road to the na- tional cemetery, Presidio of San Fran- cisco.	Burial of indigent soldiers.	Total.
Department of the East						\$763,032.63
Department of the Missouri.....						686,785.92
Department of Texas.....						374,189.77
Department of the Platte.....						353,444.47
Department of Dakota.....						665,727.96
Department of California....						263,419.60
Department of the Colorado						721,239.53
Department of the Columbia						217,973.05
Depot at New York			\$10,031.24			269,967.65
Depot at Philadelphia						889,556.21
Depot at San Francisco				\$10,000.00		142,642.51
Depot at St. Louis.....						188,564.83
Depot at Washington	\$6,128.28		300.00		\$1,000.00	240,741.09
Depot at Jeffersonville.....						286,892.82
Columbus Barracks, Ohio.....						44,546.04
David's Island, New York Harbor.....						10,011.56
Jefferson Barracks, Mo.....						57,864.23
Plattsburg Barracks, N. Y.....						95,521.87
Madison Barracks, N. Y.....		\$8,500.00				33,264.53
Fort Bliss, Tex.....						410.23
Fort Crook, Nebr.....						49,157.98
Fort Ethan Allen, Vt.....						34,664.61
Fort Harrison, Mont.....						47,898.45
Fort McPherson, Ga.....	500.00					58,740.69
Fort Riley, Kans.....						7,005.13
Fort Sheridan, Ill.....						5,509.41
Fort Thomas, Ky.....						18,117.64
Fort Wayne, Mich.....						21,156.42
Hot Springs, Ark.....						9,703.22
Little Rock, Ark.....						116,517.35
Los Angeles, Cal.....						1,200.00
Military prison, Fort Leaven- worth, Kans.....						16,798.33
Powder depot, Dover, N. J.....						135.85
Springfield Armory, Mass.....						2,368.92
West Point, N. Y.....						40,924.44
Willet's Point, N. Y.....						12,555.60
Allegheny Arsenal, Pa.....						563.95
Augusta Arsenal, Ga.....						1,015.22
Benicia Arsenal, Cal.....						2,477.91
Columbia Arsenal, Tenn.....						938.21
Frankford Arsenal, Pa.....						1,014.96
Indianapolis Arsenal, Ind.....						348.01
Kennebec Arsenal, Me.....						1,405.00
Rock Island Arsenal, Ill.....						2,607.63
Watertown Arsenal, Mass.....						3,091.89
Watervliet Arsenal, N. Y.....						1,828.70
Total	6,628.28	8,500.00	10,331.24	10,000.00	1,000.00	6,763,541.52

Remitted from indefinite or special appropriations.

Department, etc.	Headstones for graves of soldiers.	Reconstructing bridge, Niobrara River, Nebr.	Military posts.	Road to the national cemetery, Presidio of San Francisco, Cal.	Horses and other property lost in the military service (certified claims).	Burial of indigent soldiers.	Purchase of Fort Brown Reservation.	Repairstingrowth to national cemeteries.
Department of the Missouri	\$20.00							
Department of the Platte		\$6,942.16						
Department of California			\$32.48					
Depot at New York	11,538.95							
Depot at San Francisco				\$1,770.00				
Depot at St. Louis	9.08							\$2,066.15
Depot at Washington			2,000.00		\$26,045.80	\$500.00	\$160,000.00	6,825.64
Columbus Barracks, Ohio			13,191.10					
Plattsburg Barracks, N. Y.			12,336.97					
Madison Barracks, N. Y.			120.00					
Fort Bliss, Tex.			8,500.00					
Fort Crook, Nebr.			16,932.92					
Fort Harrison, Mont.								
Fort McPherson, Ga.								\$4,580.47
Fort Monroe, Va.								
Fort Sheridan, Ill.			5,000.00					
Fort Thomas, Ky.			60.00					
Fort Wayne, Mich.			47,480.03					
Little Rock, Ark.			596.67					
Willels Point, N. Y.			13,116.00					
Total	11,547.95	6,942.16	119,368.15	1,770.00	26,045.80	500.00	160,000.00	13,465.29

Department, etc.	Military storehouse, Omaha, Nebr.	Military post, Helena, Mont.	Sewerage system, Fortress Monroe, Va.	Advertising sale of land at Pittsburg, Pa.	Battle lines and sites for tablets at Antietam.	Water supply Fort D. A. Russell, Wyo.	Total.
Department of the Missouri							\$20.00
Department of the Platte						\$149.50	7,091.68
Department of California							32.46
Depot at New York							11,538.95
Depot at San Francisco							1,770.00
Depot at St. Louis							2,066.15
Depot at Washington				\$4,356.07	\$1,000.00		206,727.51
Columbus Barracks, Ohio							13,191.10
Plattsburg Barracks, N. Y.							12,336.97
Madison Barracks, N. Y.							120.00
Fort Bliss, Tex.							8,500.00
Fort Crook, Nebr.	\$23,780.87						40,713.79
Fort Harrison, Mont.		\$88,000.00					88,000.00
Fort McPherson, Ga.							4,580.47
Fort Monroe, Va.			\$3,607.50				3,607.50
Fort Sheridan, Ill.							5,000.00
Fort Thomas, Ky.							60.00
Fort Wayne, Mich.							47,480.03
Little Rock, Ark.							596.67
Willels Point, N. Y.							13,116.00
Total	23,780.87	\$88,000.00	3,607.50	4,356.07	1,000.00	149.50	400,551.26

Department of the East, barracks and quarters 1895 and 1896	\$649
Columbus Barracks, Ohio, barracks and quarters 1895 and 1896	40,000
Total	40,649

INSPECTION.

The work assigned to inspection is largely of a miscellaneous nature. It consists of matters relating to the personnel of the officers of the Quartermaster's Department, their assignment to stations, etc.; to the clerks and employees in the office of the Quartermaster-General, and in the Quartermaster's Department at large, including those

employed under the civil-service rules at general depots; to the bien-nial and annual reports, monthly return of officers, monthly and semi-monthly pay rolls of the employees in this office; to all matters per-taining to post quartermaster-sergeants and to the detachment of army service men, quartermaster's department, at West Point, N. Y.

The 80 post quartermaster-sergeants, and the 117 men composing the detachment of army service men, quartermaster's department, are reported to have generally performed satisfactory service during the past fiscal year.

Capt. J. B. Bellinger, assistant quartermaster commanding the latter organization at West Point, N. Y., reports in reference thereto as follows:

Number of men in detachment July 1, 1894	116
Number of men transferred or discharged during fiscal year ended June 30, 1895..	23
	<hr/> 93
Number of men enlisted and transferred to detachment during fiscal year ended June 30, 1895	21
	<hr/> 114
Number of vacancies in detachment June 30, 1895.....	3
	<hr/> 117
Total	117

Captain Bellinger further reports that the members of this detach-ment are assigned to the following duties: Twenty-five as mechanics and overseers, 25 as general laborers and overseers, 20 as teamsters, 4 as printers, 3 on police duty, 6 as janitors, 1 in chemical department, 1 in department of drawing, 2 in department of philosophy, 1 in library, 2 as watchmen, 1 at gas house, 2 at telephone, 1 at cemetery, 5 in quar-termaster's office, 1 in adjutant's office, 4 in subsistence department, 1 at round pond reservoir, 1 at water house, 1 as mail carrier, 1 as gar-dener superintendent's garden, 1 as cadets' bugler, 1 as school-teacher, 1 as messenger to superintendent, 3 absent on furlough, 3 vacaucies; total, 117.

By act approved July 26, 1894, it was provided—

That nothing contained in the act making appropriation for the support of the Military Academy for the fiscal year ending June thirtieth, eighteen hundred and ninety-one, shall be interpreted to prevent the number of men in the detachment of army service men of the Quartermaster's Department therein provided for being made as high as one hundred and fifty, if in the opinion of the Secretary of War such number be required.

In the appropriation bill for the support of the Military Academy for fiscal year ending June 30, 1896, approved January 16, 1895, appro-priation is made for the following:

<i>Detachment of army service men, Quartermaster's Department.</i>	
Sergeants.....	7
Corporals.....	7
Privates	102
	<hr/>
Total	116
 <i>Cavalry detachment.</i>	
First sergeant.....	1
Sergeants.....	5
Corporals.....	4
Farriers	2
Wagoner	1
Privates	52
	<hr/>
Total	65

It is further provided in this act—

That the detachments of enlisted men at the Military Academy heretofore designated as the general army service, Quartermaster's Department, and the cavalry detachment, shall be fixed at such numbers not exceeding two hundred and fifteen enlisted men in both detachments, as in the opinion of the Secretary of War the necessities of the public service may from time to time require.

MONEY ACCOUNTS AND PROPERTY RETURNS.

The assignment of work under this head consists of the administrative examination of the money accounts of officers serving in the Quartermaster's Department before their transmission to the Auditor for the War Department for final action and the examination of returns of quartermaster stores rendered by the same officers.

The following statement shows the number of accounts received, examined, and forwarded to the Auditor and the number of returns examined during the year ended June 30, 1895:

Money accounts on hand June 30, 1894	81
Received during year ended June 30, 1895.....	2,505
Total	2,586
To Auditor for the War Department	2,585
On hand June 30, 1895.....	1
Property returns on hand June 30, 1894	1,932
Property returns received during the fiscal year	3,199
Total	5,131
Property returns examined during the fiscal year.....	5,117
Property returns on hand June 30, 1895	14

Action is also taken on certificates of deposit of funds received from sales to officers and soldiers and from other sources pertaining to the appropriations for the Quartermaster's Department, and the examination of and action on boards of survey, and inventory and inspection reports connected with the returns of quartermaster stores.

CLOTHING AND EQUIPAGE RETURNS.

The work under this head consists of the examination of clothing and equipage returns.

The following is a statement of work accomplished during the last fiscal year:

Returns on hand June 30, 1894.....	1,083
Returns received during fiscal year 1895.....	3,329
Total	4,412
Returns examined during fiscal year.....	4,360
Returns on hand June 30, 1895 (all fractional fourth quarter).....	52
Letters written	7,322
Transfers and sales verified.....	32,421
Auditor's settlements registered.....	3,393
Replies to remarks examined.....	1,540

After July 1, 1895, under provisions of General Orders, No. 15, Adjutant-General's Office, 1895, all supplies purchased by the Quartermaster's Department for the use of the Army (including clothing and equipage) are to be consolidated on one return.

CLOTHING AND EQUIPAGE SUPPLIES.

Under this head all matters relating to the purchase, manufacture, and issue of clothing and equipage to the Army and to the militia of the States and Territories are considered.

Receipts and expenditures.

The appropriation for clothing and equipage for the fiscal year ended June 30, 1895, was.....	\$1, 200, 000. 00
The following amounts were placed to the credit of said appropriation during the last fiscal year:	
Reimbursements on account of issues to the militia of the States and Territories under the provisions of section 1661, Revised Statutes	184, 175. 54
Collections by Pay Department on account of clothing overdrawn and purchases of discharges by enlisted men, under section 4, act of Congress approved June 16, 1890, from sales to officers and surveying expeditions authorized by law.....	111, 215. 93
Total	1, 495, 391. 47
The remittances to officers of the Quartermaster's Department at the general depots and the Fort Leavenworth military prison and elsewhere, for the purchase and manufacture of clothing and equipage and other incidental expenses connected therewith amounted to.....	\$991, 715. 98
The amount reimbursed to the appropriation for arming and equipping the militia of the States and Territories on account of clothing and equipage supplies returned to the Quartermaster's Department was.....	735. 00
Treasury settlements.....	21. 74
	992, 472. 72

Leaving a balance of..... 502, 918. 75

in the Treasury of the United States on the 30th of June last, nearly all of which, together with such amounts as will yet be placed to the credit of the appropriation, will be required to pay outstanding obligations under contracts entered into prior to July 1, 1895. A further sum of \$310.90, on account of clothing and equipage, returned to the Quartermaster's Department by the States and heretofore credited to the appropriation for clothing and equipage, will also be reimbursed to the appropriation for arming the militia from the balance remaining in the Treasury of the United States on the 30th of June last.

The following are the amounts remitted to officers, viz:

Depot at Philadelphia, Pa.....	\$765, 241. 28
Depot at Jeffersonville, Ind	156, 043. 34
Depot at St. Louis, Mo	5, 926. 03
Depot at San Francisco, Cal.....	56, 164. 47
Military prison at Fort Leavenworth, Kans.....	5, 925. 57
To various departments and posts.....	2, 415. 29
Total.....	991, 715. 98

COLLECTIONS BY PAY DEPARTMENT.

The following collections by the Pay Department during the last fiscal year were placed to the credit of the appropriation for clothing and equipage for 1894-95, viz:

On account of clothing drawn by enlisted men in excess of their annual allowance	\$45, 100. 42
On account of purchases of discharges by enlisted men under section 4 of the act of Congress approved June 16, 1890.....	25, 057. 20

In addition to these amounts there were also collected by the Pay Department since July 1, 1894, on account of clothing overdrawn, \$20,406.24, which amount has been placed to the credit of the appropriation for clothing and equipage for 1893-94.

PURCHASES.

The following are the principal articles of clothing, equipage, and materials which were purchased during the last fiscal year at the general depots and at the Fort Leavenworth military prison, viz:

Helmets, untrimmed.....	875	Pillows	6,500
Campaign hats.....	25,701	Pillowcases	60,000
Forage caps.....	2,013	Iron bedsteads with W.W.B.B. .	992
Fur caps.....	7,050	Barrack chairs	3,712
Fur gauntlets	10,680	Brooms, corn	4,000
Leggings	15,473	Woven-wire bunk bottoms.....	2,012
Undershirts, all kinds.....	117,537	Mosquito bars.....	4,694
Muslin shirts.....	76,410	Axes	2,500
Drawers, knit, wool.....	25,503	Shovels	2,000
Woolen stockings.....	100,698	Scrubbing brushes.....	15,000
Cotton stockings.....	105,050	Cloth, D. B., A. S.....	15,166
Berlin gloves.....	195,748	Kersey, S. B., A. S.....	165,566
Leather gauntlets.....	6,433	Blouse flannel, A. S.....	193,336
Boots.....	1,981	Blouse flannel, F. Q.....	1,189
Shoes, calfskin.....	55	Shirting flannel.....	27,618
Shoes, barrack.....	22,678	Blouse lining, flannel.....	114,545
Arctic overshoes.....	7,832	Canton flannel.....	253,714
Blankets, wool.....	24,830	Cotton duck.....	116,200
Mattresses.....	2,000	Cotton duck for fatigue clothing.	69,686

MANUFACTURES AT GENERAL DEPOTS.

There were manufactured at the general depots during the last fiscal year the following principal articles of clothing and equipage from material purchased by this Department, viz:

Articles.	Depot.		
	Philadel- phia.	Jefferson ville.	San Fran- cisco.
Dress coats, all kinds	3,961	.....	261
Overcoats, kersey, made and unmade	3,154	.....	243
Blouses, made and unmade	22,075	25,000	3,005
Coats, canvas fatigue	1,580	5,500	1
Trousers kersey, foot, made and unmade	47,711	.....	2,036
Trousers kersey, mounted, made and unmade	11,387	.....	561
Trousers, canvas fatigue.....	2,771	8,000	1
Overalls.....	460	3,000	.....
Stable frocks	3,120	.....	401
Shirts dark blue, flannel	5,823	18,000	.....
Drawers.....	17,884	45,000	4,945
Tents, conical wall	437	.....	.....
Tents hospital	94	.....	.....
Tents wall	714	.....	.....
Tents shelter.....	2,443	.....	.....
Tents, common	486	.....	.....

MANUFACTURES AT AND TRANSACTIONS WITH THE FORT LEAVENWORTH MILITARY PRISON.

The following is a statement of the articles of clothing and equipage that were manufactured at the Fort Leavenworth military prison for this Department during the last fiscal year, showing in detail cost of manufacturing the same:

	Number.	Material.	Prison labor.	Civilian labor.	Total.
Calfskin shoes	6,911	\$11,541.71	\$1,738.00	\$950.00	\$14,229.71
Corn brooms	24,829	2,729.13	627.22	.....	3,356.35
Clothing for prisoners at Alcatraz Island:					
Blouses	50	83.73	25.00	.....	108.73
Trousers	41	44.19	20.50	.....	64.69
Total.....	.....	14,398.76	2,410.72	950.00	17,759.48

There was realized at the Fort Leavenworth military prison during the last fiscal year from the sale of scrap leather the sum of \$433.17, which was covered into the Treasury of the United States to the credit of miscellaneous receipts.

There were turned over to the Fort Leavenworth military prison during the last fiscal year, for issue to convicts and use at the prison, as a partial offset for the labor performed by the prison for this Department, articles of clothing and equipage to the value of \$2,112.13, and other stores to the value of \$74.08, making a total of \$2,186.21.

The money value of the prison labor performed for this Department by the Fort Leavenworth military prison during the last fiscal year is reported to have been \$12,083.55.

Under the act of Congress approved March 2, 1895, transferring the Fort Leavenworth military prison from the War Department to the Department of Justice articles of equipage, tools, and machinery to the value of \$7,062.41 heretofore purchased from the appropriation for clothing and equipage were, on the 30th of June last, transferred by the quartermaster of the military prison to the acting warden of the United States Penitentiary at Fort Leavenworth, Kans.

There were also retransferred from the military prison to the custody of this Department the following articles of obsolete clothing heretofore transferred to the prison authorities for issue to convicts, viz:

4,300 pairs obsolete brass-screwed shoes, at \$1.79	\$7,697
2,700 pairs obsolete field shoes, at \$1.03	2,781
500 campaign hats, old pattern, at 65 cents	325
Total	10,803

ISSUES TO THE MILITIA.

There were issued to the several States and Territories under the act of July 1, 1887, amending section 1661 of the Revised Statutes, quartermaster supplies, as specified below, for which the several appropriations of the Quartermaster's Department have been or will hereafter be reimbursed, viz:

States and Territories.	Clothing and equipage.	Regular supplies.	Army transportation.	Total.
Alabama.....	\$5 582.62			\$5, 582.62
Arizona.....	1, 553.70			1, 553.70
Arkansas.....	4 251.49			4, 251.49
Colorado.....	2, 850.27			2, 850.27
Connecticut.....	2, 322.80			2, 322.80
Delaware.....	3, 982.48			3, 982.48
District of Columbia.....	4, 169.91	\$1, 006.73		5, 176.64
Florida.....	727.24			727.24
Georgia.....	4, 295.96			4, 295.96
Idaho.....	3, 700.47			3, 700.47
Illinois.....	4, 907.14			4, 907.14
Indiana.....	5, 622.13			5, 622.13
Iowa.....	9, 793.82			9, 793.82
Kansas.....	10, 217.53	9.65		10, 227.18
Kentucky.....	2, 229.58			2, 229.58
Louisiana.....	527.90			527.90
Maine.....	795.61			795.61
Maryland.....	1, 198.53	378.00		2, 376.53
Massachusetts.....	6, 455.42			6, 455.42
Michigan.....	7, 812.11	216.03		8, 028.14
Mississippi.....	2, 569.45			2, 569.45
Missouri.....	2, 597.27			2, 597.27
Montana.....	713.98			713.98
Nebraska.....	5, 609.84			5, 609.84
Nevada.....	2, 193.91			2, 193.91
New Hampshire.....	1, 743.57			1, 743.57
New Jersey.....	146.47			146.47
New Mexico.....	1, 689.48			1, 689.48
New York.....	22, 935.89			22, 935.89
North Carolina.....	2, 766.40			2, 766.40
Ohio.....	6, 798.52		\$483.80	7, 282.32
Pennsylvania.....	9, 875.46			9, 875.46
Rhode Island.....	1, 057.16			1, 057.16
South Carolina.....	3, 721.15			3, 721.15
South Dakota.....	2, 799.35			2, 799.35
Tennessee.....	4, 190.10			4, 190.10
Texas.....	3, 181.34			3, 181.34
Utah.....	4, 599.64			4, 599.64
Vermont.....	1, 139.74			1, 139.74
Virginia.....	8, 929.59		12.00	8, 941.59
West Virginia.....	3, 126.87			3, 126.87
Wisconsin.....	1, 962.10			1, 962.10
Wyoming.....	116.42			116.42
Oklahoma.....	4, 569.23			4, 569.23
Total.....	183, 129.64	1, 610.41	495.80	185, 235.85

In addition to the foregoing there were also issued to the governors of the States and Territories, and credited to the appropriation for clothing and equipage, articles to the value of \$1,045.90, which, not being desired, were retransferred to this Department and properly credited on the books of the Treasury to the appropriation for arming and equipping the militia.

There were also issued during the last fiscal year to the commanding general of the militia of the District of Columbia, under the act of Congress approved March 1, 1889, stores to the value of \$3,410.16, for which the appropriations of this Department will not be reimbursed, viz:

Clothing and equipage.....	\$2, 200.00
Regular supplies.....	1, 048.46
Army transportation.....	161.70
Total.....	3, 410.16

ISSUES TO INDIAN PRISONERS OF WAR.

There were issued during the last fiscal year to Indian prisoners of war and their families at Mount Vernon Barracks, Ala., and after their transfer to Fort Sill, Okla., clothing, equipage, and materials to the value of \$6,227.32; also mules, means of transportation, forage, and miscellaneous stores to the value of \$14,596.70. There were also paid as wages to the persons employed as interpreter, packer, and teamsters the sum of \$2,030.

During the transfer of these prisoners from Mount Vernon Barracks, Ala., to Fort Sill, Okla., the sheds of the Louisville and Nashville Railroad Company at New Orleans, containing the property of these Indians, took fire, resulting in the destruction or damage of property to the value of \$1,031.59, which amount has been charged to the railroad company referred to.

SALES OF CONDEMNED AND UNSERVICEABLE CLOTHING AND EQUIPAGE.

There was realized during the last fiscal year from sales of condemned and unserviceable clothing and equipage, at the general depots of the Quartermaster's Department and the Fort Leavenworth military prison, the sum of \$11,460.03. The expenses connected with making said sales amounted to \$127.70, leaving the sum of \$11,332.33, which was covered into the Treasury of the United States and credited to miscellaneous receipts.

SALES TO UNITED STATES SOLDIERS' HOME.

The following is a statement showing articles of clothing and equipage sold during the last fiscal year to the governor of the Soldiers' Home near Washington, D. C., and the amount realized, viz:

565 pairs obsolete trousers, foot, at \$2.72.....	\$1, 536. 80
135 pairs obsolete trousers, mounted, at \$3.47.....	468. 45
2 post flags, at \$7.55.....	15. 10
2 storm flags, at \$2.03.....	4. 06
10 overcoats, mounted, at \$8.99.....	89. 90
Total	<u>2, 114. 31</u>

SALES TO GEOLOGICAL SURVEY.

There were sold during the last fiscal year, upon the application of the Secretary of the Interior, to the Geological Survey for use of surveying parties in the field, at the regulation prices for cash, 28 complete hospital tents, 66 wall tents, 67 wall-tent flies, 56 sets wall-tent poles, and 55 sets wall-tent pins, at a total value of \$2,190.18, which amount has been placed to the credit of the appropriation for clothing and equipage.

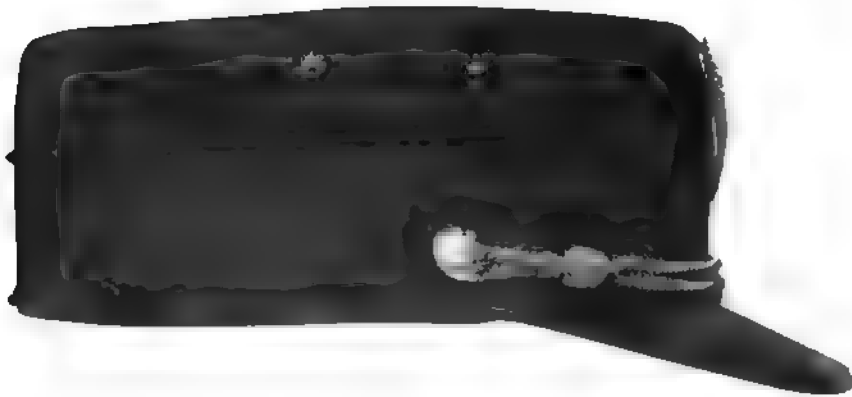
SALE OF CLOTHING TO INTERIOR DEPARTMENT FOR USE OF INDIAN PRISONERS.

Under authority of the Secretary of War of February 25 last there were sold to the Interior Department, for use of Moqui Indian prisoners confined at Alcatraz Island, articles of clothing such as are issued to military convicts to the value of \$68.16. Claim for reimbursement has been made.

CAP FOR OFFICERS.



FRONT VIEW



SIDE VIEW

INSIGNIAS FOR OFFICERS' UNDRRESS COATS.

U.S.

SHAPE OF LETTERS U S. ON BLOUSE COLLAR Full size.

Order leaves size optional, $\frac{1}{4}$ inch in size is considered best



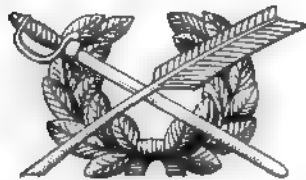
A. G. CORPS. Full size



I. G. CORPS. Full size.



CAVALRY. Full size



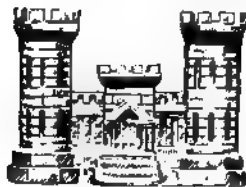
J. A. G. CORPS. Full size



SIGNAL CORPS. Full size.



INFANTRY Full size.



ENGINEERS Full size.



ORDNANCE. Full size



ARTILLERY Full size



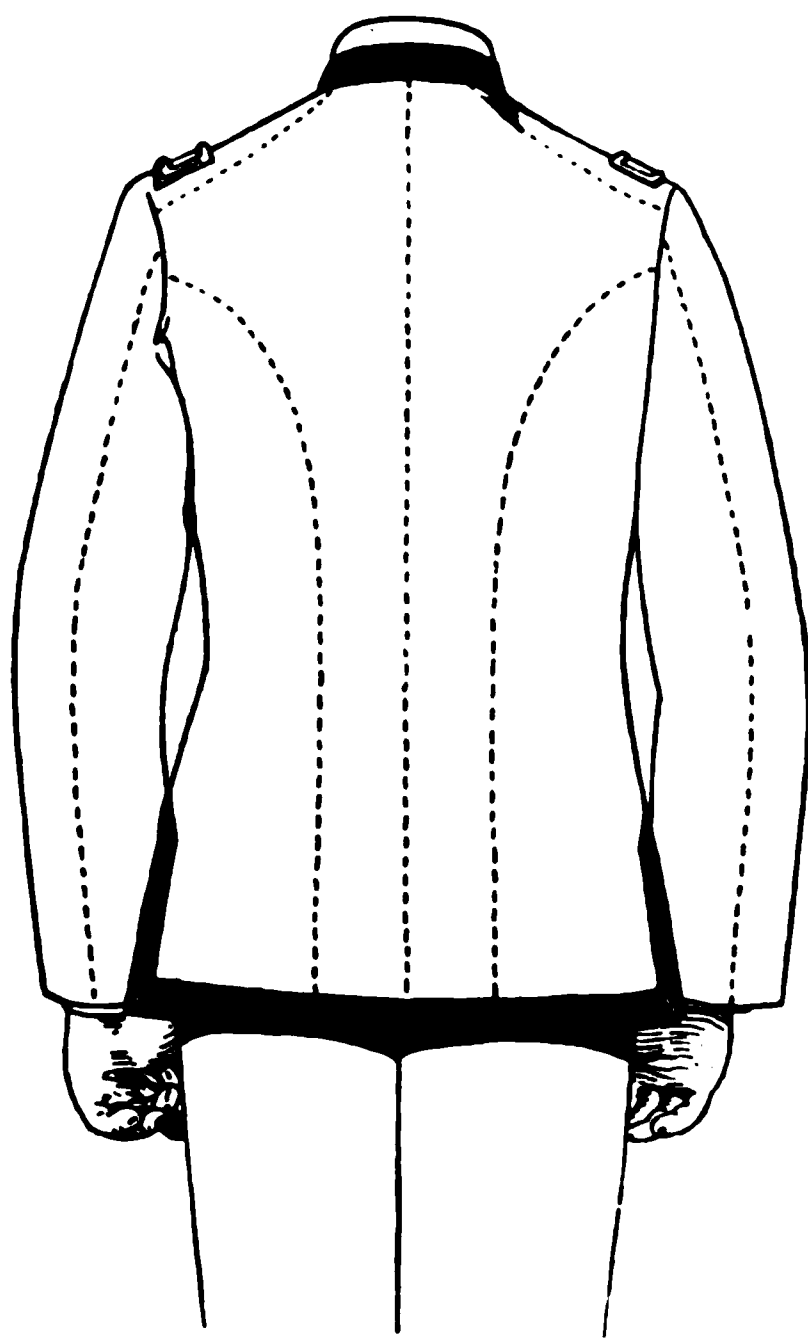
INSIGNIA FOR OFFICERS' CAPS Full size

Designs for the insignias for officers of the Medical Quartermaster Pay and Commissary departments are at II under consideration.

OFFICERS' UNDRESS COAT.



FRONT VIEW.



BACK VIEW. (Seams in back optional.)

DRAB-COLORED CAMPAIGN HATS.

It having been found necessary to improve the drab-colored campaign hats for the enlisted men, orders were given to procure samples which would give better service than those heretofore supplied, by having a brim that would retain its shape and making the color absolutely fast.

Samples possessing these qualities were obtained and sent out for trial. From reports received it appears that they are satisfactory and that the object sought has been attained.

New standards and specifications have been adopted. The hats to be procured hereafter will be of the improved kind.

FORAGE CAPS.

The Secretary of War having adopted a new pattern forage cap for both officers and enlisted men, and ordered that the same be introduced on the 1st of January next, steps have been taken to procure a supply for the enlisted men, so as to be ready to commence issuing them on the date mentioned. An illustration of the officers' cap and ornament for same accompanies this report.

OFFICERS' UNDRRESS COATS.

Under the orders of the Secretary of War a change in the officers' undress coat, consisting in the removal of the ornamentations of braid from the front, back, and sleeves of the coat, has also been made, and the insignias to be worn upon the collars of said coats have been so fixed as to distinctly show the organization to which the respective officers belong. As a distinguishing mark, officers of the Army are required to wear the letters U S in gold upon the collar of the coat, in contradistinction to the officers of the militia. Illustrations of the new coats, as well as of the ornaments for same, are submitted herewith.

DARK-BLUE TROUSERS.

At the requests of the Chief of Engineers and the Surgeon General of the Army the following changes in the color of the trousers for the enlisted men of the Battalion of Engineers and Hospital Corps have been made and promulgated in General Orders, so that the enlisted men of the Battalion of Engineers will hereafter wear trousers of dark-blue color, while those of the Hospital Corps will return from dark to sky blue.

RUBBER CAPES AND PONCHOS.

From reports received it appears that the rubber capes referred to in the last annual report have not given the expected favorable results. The limited number purchased has been sold to officers at cost price.

As a consequence, steps have been taken to reduce the weight of the rubber poncho to such a minimum as will combine durability with lightness.

BAND INSTRUMENTS.

Dissatisfaction having arisen in many cases with instruments supplied to the Army bands under the general system of purchase upon established standards, due in part to individual preference for instruments other than those adopted as standards, in part to musicians not

well skilled in those instruments, and again to close competition in prices, resulting now and then in inferior instruments, the system of supply has been changed.

Somewhat greater latitude is given to individual preferences, the limit being for standard instruments of domestic production, and purchases are made directly upon the requisitions as received.

Such of the cavalry regiments as have submitted approved requisitions have been supplied with helicon-shaped instruments. The results of this change are entirely satisfactory to all concerned.

SERVICE COLORS AND STANDARDS.

To protect the silken colors and standards carried by regiments, and which are very expensive, from wear and tear incident to drills and while on the march, the Secretary of War has approved the recommendations of this office that each foot regiment be furnished with a national color of bunting and each cavalry regiment with a standard consisting of the Stars and Stripes, also made of bunting. Steps have been taken to procure the necessary number to supply the several regiments. This action will prolong the life of the silken colors and standards very materially.

CHANGE IN SIZE OF REGIMENTAL COLORS.

A change in the dimensions of the national and regimental colors carried by foot troops has also been approved by the Secretary of War, whereby such colors shall hereafter be 5 feet 6 inches fly, instead of 6 feet 6 inches, and 4 feet 4 inches deep on the pike, instead of 6 feet.

The size and weight of the staff have been considerably reduced.

Steps will shortly be taken to supply colors of the new dimensions.

STAFFS FOR COLORS.

The staffs supplied with the national and regimental colors are made of ash, and their average weight, including spearhead and ferrule, is about 3 pounds 10 ounces, quite a heavy weight if carried in an upright slanting position for any length of time. Experiments were made to produce such staffs of lighter weight, if practicable.

A tubing of aluminum was obtained, weighing 2 pounds 12½ ounces, without spearhead or ferrule. While nearly a pound lighter in weight, it was not considered sufficiently strong for military purposes.

A tubing of aluminum alloy was then obtained, weighing without spearhead and ferrule 3 pounds 8 ounces. The chief object, to reduce the weight of the wooden staff, looked for in the substitution of metal for wood having thus failed of accomplishment, the experiments have for the time being been abandoned.

IMPROVEMENTS IN TENTS.

In February last Maj. Charles W. Williams, quartermaster, United States Army, submitted to this office a model of a device invented by him, consisting of certain improvements in tent supports and a cap to ventilate and permit the heated air to escape, at the same time preventing the entrance of snow and rain, and requests that a trial of the invention be made.

The equipment board of this office, after careful examination, considered that the device possessed much merit and recommended that a tent, equipped with the device, be practically tried.

A tent was manufactured accordingly and forwarded to this office for further examination, and being considered an improvement upon the conical wall tent heretofore supplied, the equipment board, to establish the merits of the invention beyond peradventure, recommended that twelve improved tents be equipped at the Philadelphia depot with the device and sent out for trial by troops in active service. Meeting with the approval of the Quartermaster-General, instructions to carry the foregoing into effect have been given and steps taken to take out letters patent upon the invention, in order that the same may be used by the Government or any of its officers or employees, or by any other person in the United States, without the payment of any royalty thereon.

BROWN COTTON DUCK.

It having been found that the brown color used in dyeing the cotton duck required for the manufacture of canvas fatigue clothing, leggings, barrack shoes, barrack bags, and canvas blanket-lined overcoats was of a fugitive character, orders have been given to hereafter procure only duck of an absolutely fast dye, and of uniform shade of color.

Difficulties in finding an absolutely fast color have been encountered, but it is expected that they will be overcome in pending and subsequent manufactures.

CONCLUSION.

In closing I desire to respectfully state that the Army has been liberally and promptly supplied with all necessary articles of clothing and equipage, and that the supplies procured and issued have been equal to standards and specifications.

For further and detailed information regarding the quantities of clothing and equipage on hand at the close of the last and beginning of the present fiscal years, as well as the quantities purchased, manufactured, gained, sold, issued to the Army and to the militia, I have the honor to refer to the accompanying detailed and consolidated statement.

Very respectfully,

GEO. H. WEEKS,

Assistant Quartermaster-General, United States Army.

The QUARTERMASTER-GENERAL.

A.—Statement showing articles of clothing and equipage and material on hand at the issuing depots of the Quartermaster's Department, etc.—Continued.														
Articles.	On hand June 30, 1894.	Pur- chased.	Manu- fac- tured.	Received from gen- eral de- pots.	Received from posts.	Gained.	Total received.	Sold.	Trans- ferred to general depots.	Expend- ed or dropped.	Issued to the militia.	Issued to the Army.	Total issued.	Remain- ing on hand June 30, 1895.
Clothing—Continued.														
Overcoats—Continued.														
Kersey, unmade	1,492		562	363	319		2,736	57	327	16		732	1,132	1,604
Cape linings	16		827	8	36		887	73	6			770	849	38
Rubber	4						4							4
Overshoes, arctic	9,783	7,832		5,875	164		23,654	63	6,370		6	7,177	13,616	10,038
Ponchos, rubber	254	4,260		305	701		5,520	5	300		2,684	552	3,541	1,979
Shirts:														
Flannel, dark blue, made	45,184		23,826	12,667	301		81,978	50	12,500		134	23,717	36,401	45,577
unmade	255		2				257	1				21	22	235
Muslin	2,753	76,410		33,348	417		112,928	64	35,353			48,600	84,017	28,911
Shirt studs, bone	16,476	43,200			3,006		62,682					288	288	62,394
Shoes:														
Barrack	37,688	22,678		15,033	61		75,460	18	9,855	11		22,888	32,772	42,688
Brass-screwed	159			4,300	468		4,927	115				38	153	4,774
Calfskin, hand-sewed	84,452	55	6,911	25,621	1	53	117,093	17	27,020		6	44,278	71,321	45,772
Campaign, sewed	9,830			2,899	498	245	13,472	40				2,882	2,922	10,550
Field	1,505						1,505	50		7			57	1,448
Post	25				9		34	25					25	9
Stockings:														
Cotton	158,287	105,050		76,423	136	382	340,228	428	77,652			167,825	245,905	94,323
Woolen	117,025	100,698		49,041	353		267,117	71	49,000	13		73,900	122,984	144,133
Suspenders	28,918	2,400		1,235	258		32,811	757	1,200		3	7,583	9,543	23,268
Trousers:														
Canvas fatigue	19,125		10,772	5,408	157	1	35,463	6	5,300		12	10,470	15,788	19,675
Foot, made, army standard	27,637		27,959	14,122	1,738	219	71,675	605	13,849		8,222	22,429	45,105	26,570
unmade, army standard,														
pairs	9,523		14,941	8,298	1,011	36	33,809	60	8,118		132	16,733	25,043	8,766
made, fine quality	783		2,044	39	30		2,896		28		58	173	259	2,637
unmade, fine quality	422		4,768		19		5,209	2	13			5,019	5,034	175
Hospital Corps, made	894				6		900		178		150	528	856	44
unmade	134		35				169		57			112	169	
Mounted, made, army standard,														
pairs	19,873		3,968	3,619	1,120	2,505	31,085	342	3,450		520	4,712	8,924	22,161
unmade, army stand-														
ard, pairs	9,765		5,959	4,801	62	140	20,727	170	4,801		30	7,326	12,327	8,400
made, fine quality,														
pairs	788		157		26		971		219		40	23	282	689
unmade, fine quality,														
pairs	240		2,864		21		2,125	20	2		30	1,976	2,028	97
Linen	211						233							233
Summer	4,617		10,115	22			15,127	74	22		221	11,475	11,792	3,335

[illegible]

A.—Statement showing articles of clothing and equipage and material on hand at the issuing depots of the Quartermaster's Department, etc.—Continued.

Articles.	On hand June 30, 1894.	Pur- chased.	Manu- fac- tured.	Received from gen- eral de- pots.	Received from posts.	Gained.	Total received.	Sold.	Trans- ferred to general depots.	Expend- ed or dropped.	Issued to the militia.	Issued to the Army.	Total issued.	Remain- ing on hand June 30, 1895.
Equipage—Continued.														
Drum cases.....	52		61	10	11	1	135		20		41	13	73	62
cords.....	21	54					75		10			39	49	26
heads, batter.....	302	260		157	8		727	92	150		41	121	404	323
snare.....	303	257		102	8		670	47	100		83	110	290	380
knee rests.....	10				1		11				2		2	9
rods.....	207	34		102	6	71	420		100		24	34	158	262
slings.....	670			60	5	71	806	1	60		35	88	184	622
snare.....	2,704				3		2,707				5	16	21	2,686
sticks.....	3,341			40	132		3,513	1	165		47	43	256	3,257
stick carriages.....	2,386			23		11	2,420		20		30	3	53	2,367
Fife.....	1,351			6	2		1,359	2	4	2	5	16	29	1,380
Flags:														
Garrison.....	81	50					131	1		1	2	10	14	117
Hospital, field.....	40	11		1			52		1	1	9	6	17	35
general.....	14	1					15				1		1	14
Post.....	299	400		15	1		715	4	16	7	27	110	164	551
Storm and recruiting.....	635	500		34			1,169	18	40	32	33	231	354	815
Flag halcyards:														
Garrison and post.....	296	101		31	8		436	2	26	1	2	65	96	340
Storm and recruiting.....	1,753						1,753	2		18	6	11	37	1,716
Flag-halyard devices.....	452	2,000					2,452							2,452
Guidons:														
Ambulance.....	19	6			3	4	32				6	11	17	15
Artillery and cavalry.....	20	56					76				14	36	50	26
Indian scouts.....	3						3							3
Guidon staffs.....	13	1		6	6		26					8	8	18
Hatchets.....	10,060			600	30		10,690	13	600	4	19	765	1,401	9,289
Hatchet helves.....	7,287	1,113		1,520	105	126	10,151	2	1,500	6	19	1,980	3,457	6,694
slings.....	947						947				15		15	932
Kettles, camp.....	2,527	500		450	29		3,506	1		15	33	587	636	2,870
Litters, hand.....	16				20		36					2	2	34
Mattresses.....	3,413	2,000		2,045	113		7,571	223	2,025	10	31	2,622	4,911	2,660
covers for.....	12,222	13,854		4,000	117		30,193	72	4,000	12		6,519	10,603	19,590
Mess pans.....	46,348				55		46,403	76		35	106	318	585	45,868
Mosquito bars.....	3,467	4,694		2,411	989		11,561	38	2,380		6	4,571	6,995	4,566
head nets.....	79	846			52	69	1,046	38				237	275	771
Pickaxes.....	4,069			550	10		4,629	3	635		52	531	1,221	3,408
helves.....	3,394	2,000		650	407		6,451		650	6	50	1,463	2,169	4,282
slings.....	190						190							190

Pillows.....	3,434	6,500	.....	2,800	54	.....	12,788	113	2,800	8	.....	4,045	6,966	5,822
Pillowcases.....	16,722	60,000	.....	18,000	17	59	94,798	191	18,000	31	.....	23,268	41,490	53,308
sacks.....	2,619	.....	50	15	.....	1	2,685	272	.....	16	50	.....	338	2,347
Pots, iron.....	869	.....	.....	.....	12	.....	841	.....	.....	.....	6	7	13	868
Shovels.....	3,839	2,000	.....	1,400	48	.....	7,287	.....	1,400	9	2	1,901	3,312	3,975
handles.....	53	.....	.....	.....	.....	.....	53	.....	.....	.....	.....	.....	.....	53
Spades.....	11,305	500	.....	.....	49	.....	11,854	.....	.....	2	113	433	548	11,306
helves.....	29	.....	.....	.....	.....	.....	29	.....	.....	.....	.....	.....	.....	29
slings.....	204	.....	.....	.....	.....	.....	204	.....	.....	.....	10	11	21	183
Standards.....	3	.....	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	.....	3
Stencils:														
Alphabets.....	45	.....	.....	.....	8	.....	53	.....	.....	.....	.....	3	3	50
Boxes complete.....	140	125	.....	.....	11	.....	276	1	.....	2	20	38	61	215
Company marking stamps.....	20	12	.....	.....	2	.....	34	.....	.....	.....	.....	14	14	20
Numbers.....	64	.....	.....	.....	8	.....	72	.....	.....	.....	.....	4	4	68
Tents:														
Common.....	3,361	.....	486	283	20	.....	4,150	1	100	9	547	252	909	3,241
Conical wall.....	544	.....	437	145	.....	.....	1,126	.....	145	.....	308	184	637	489
Hospital.....	248	.....	94	42	1	.....	385	27	42	.....	94	58	221	164
Shelter halves.....	16,729	.....	2,443	500	.....	.....	19,672	16	500	.....	50	5,121	5,687	13,985
Sibley.....	181	.....	.....	.....	.....	.....	181	.....	.....	.....	.....	.....	.....	181
Wall.....	984	.....	714	250	34	.....	1,982	44	250	3	661	237	1,195	787
Tent chains.....	402	1,000	.....	.....	4	.....	1,406	2	.....	450	.....	31	483	923
flies, hospital.....	173	.....	283	79	3	.....	538	26	79	.....	149	66	320	218
wall.....	946	.....	764	333	8	.....	2,051	42	333	2	659	239	1,275	776
pins, iron, large.....	2,183	.....	.....	.....	.....	.....	2,183	.....	.....	.....	.....	.....	.....	2,183
small.....	4,291	.....	.....	.....	.....	.....	4,291	.....	.....	.....	.....	.....	.....	4,291
wooden, all kinds.....	245,847	140,100	.....	17,683	2,711	6,231	412,572	2,266	17,500	36	140,828	125,240	285,870	126,702
poles, common ridge.....	7,429	.....	.....	252	6	.....	7,687	1	50	48	658	330	1,087	6,600
upright.....	13,154	.....	.....	517	17	.....	13,688	2	100	107	1,316	424	1,949	11,739
conical, wall, and Sibley.....	1,565	600	.....	11	.....	.....	2,176	11	.....	.....	376	82	469	1,707
hospital ridge.....	475	425	.....	.....	.....	.....	900	24	.....	.....	98	62	184	716
upright.....	588	850	.....	.....	.....	.....	1,438	48	.....	.....	196	137	381	1,057
shelter halves.....	16,919	.....	.....	483	287	.....	17,689	.....	.....	921	.....	.....	3,088	14,601
wall ridge.....	1,048	1,450	.....	.....	7	.....	2,505	40	.....	1	50	2,117	894	1,611
upright.....	2,060	2,850	.....	.....	8	.....	4,918	83	.....	.....	1,412	282	1,777	3,141
Tent-pole sockets.....	317	.....	.....	25	.....	4	346	.....	25	.....	.....	50	75	271
rings.....	5,606	127	.....	.....	.....	.....	5,733	.....	.....	452	.....	1	453	5,280
Sibley.....	54	.....	.....	.....	4	.....	58	.....	.....	.....	.....	28	28	30
slips, metal.....	28,350	60,000	.....	.....	.....	.....	88,350	.....	.....	34,977	550	4,955	40,482	47,868
stoves.....	1,327	417	.....	.....	.....	.....	1,744	.....	.....	.....	.....	2,000	200	1,544
stovepipe joints.....	3,318	2,208	.....	400	.....	.....	5,926	45	400	.....	.....	2,611	3,056	2,870
straps.....	488	1,200	.....	205	.....	.....	1,893	.....	200	.....	376	74	650	1,243
tripods.....	742	500	.....	127	.....	.....	1,369	.....	100	.....	418	38	556	813
Trumpets.....	1,128	525	.....	301	19	.....	1,973	62	300	2	174	298	836	1,137
cords and tassels (also for bugles).....	1,520	550	.....	330	25	.....	2,425	12	325	3	189	331	800	1,565
crooks.....	951	2	.....	52	13	.....	1,018	29	50	.....	33	55	167	851
mouthpieces.....	51	131	.....	20	7	44	253	.....	20	.....	.....	71	91	162
Whistles.....	1,200	.....	.....	.....	.....	.....	1,200	3	.....	.....	12	271	296	914

A.—Statement showing articles of clothing and equipage and material on hand at the issuing depots of the Quartermaster's Department, etc.—Continued.

Articles.	On hand June 30, 1894.	Pur- chased.	Manu- fac- tured.	Received from gen- eral de- pots.	Received from posts.	Gained.	Total received.	Sold.	Trans- ferred to general depots.	Expend- ed or dropped.	Issued to the militia.	Issued to the Army.	Total issued.	Remain- ing on hand June 30, 1895.
<i>Materials.</i>														
Buttons, all kinds.....number..	435,040	4,077,072		803,636	2,976	361,728	5,680,452	1,872	803,808	1,533,017	1,728	19,499	2,359,924	3,320,528
Cloth:														
Blanket lining.....yards..	7,062						7,062	5		121			126	6,936
Dark blue 1, army standard...do....	16,552	13,166		124	48		29,890	258	791	7,504	3,247	1,349	13,149	16,741
Dark blue 1, fine quality.....do....	5,544			750	20		6,314	154		95	15	1,052	1,316	4,998
Facing.....do....	4,292	7,695					11,987	88		3,463	31		3,582	8,405
Italian.....do....	8,184			500			8,684	70	500	2,587			3,157	5,527
Doeskin, sky blue.....do....	220	620		153			993	646	155				801	192
Drilling.....do....	9,241	116,130		658			126,029		658	75,858		50	76,566	49,463
Duck:														
Brown.....do....	37,325	69,885				3,050	110,260	6		49,007			49,013	61,247
Cotton.....do....	252,511	116,200			40	1,377	378,637	59	4,272	169,988			174,319	204,318
White, 8-ounce.....do....	32,570	80,355					112,925	179	8,510	80,046			88,735	24,190
Flannel, blouse:														
Dark blue, army standard...do....	63,990	193,336		1,133	10	406	258,875	66	650	96,937	5,511	3,398	106,562	152,313
Dark blue, fine quality.....do....	3,872	1,189		897	18		5,976	60	926	4,339		584	5,889	87
Lining, dark blue.....do....	50,036	114,545		394	45	1,992	167,012	65	302	107,963		198	108,528	58,484
Flannel, canton.....do....	41,449	253,714		3,332	62	1,968	300,525	227	3,318	170,301		3,760	177,606	122,919
shirting and cape lining do.....do....	79,102	27,618		73	1,659		108,452	162	50	51,377		643	52,232	56,220
Jeans, corset.....do....	34,060	25,000		62		115	59,237	48	3,572	18,529	767	340	23,256	35,981
Kersey:														
Dark blue.....do....	212	817		48	58		1,135	19	48	53			120	1,015
Gray.....do....	944						944							944
Sky blue, army standard, 1/2 fine quality.....do....	34,686	165,566		25	379	614	201,270	891	116	102,226	5,635	1,382	110,250	91,020
Lace, gold.....do....	2,273			129	31		2,433	30	10	387		295	722	1,711
Leather:														
Calf.....pounds..	24,716	5		22,995			47,716		15,989	17,419			31,608	16,108
Counter.....do....	10,248					5	10,253		7,710	2,543			10,253	
Sole, cropped.....do....	53,454					6,480	59,934		36,543	14,116			50,659	9,275
Viscolized.....do....	80					8	88	88					88	
Waxed upper.....square feet..	14,956					6,233	21,189		16,434	3,898			20,332	857
Welt.....pounds..	3,989					198	4,187		2,610	1,274			3,884	303
Muslin, unbleached.....yards..	25,380	90,598		16,231		524	132,733	369	16,231	55,332			71,932	60,801
Padding.....do....	30,776	132,283		16,669		1,860	181,588	30	16,669	80,180			96,879	84,709
Silesia.....do....	23,112	73,390		1,501		522	98,525	59	1,501	44,150		215	45,925	52,600

REPORT OF MAJ. CHARLES BIRD, QUARTERMASTER, UNITED STATES ARMY.

WAR DEPARTMENT,
QUARTERMASTER-GENERAL'S OFFICE,
Washington, D. C., August 15, 1895.

GENERAL: I have the honor to submit herewith the following report of the operations of the supplies and transportation division of the office during the fiscal year ended June 30, 1895:

TRANSPORTATION BRANCH.

The Quartermaster-General supervises and controls, through the transportation branch, the equipment for the transportation service of the Army, including wagons, ambulances, and vehicles, draft and pack animals, and cavalry and artillery horses.

Through it he also drafts all regulations and promulgates and enforces instructions for the government of the transportation service for the Army—rail, water, wagon, and stage. All transportation accounts which for legal or technical reasons can not be paid by disbursing quartermasters under existing regulations are settled through this branch, including the voluminous accounts of the bond-aided Pacific railroads.

Telegraph and telephone accounts for military service, under similar conditions, are settled through this branch.

Estimates of funds for the maintenance of these features of military administration are prepared and their economical expenditure, under existing laws and regulations, is directed through the transportation branch of the office.

The expenditures from transportation appropriation for the fiscal year ending June 30, 1895, so far as shown by accounts received to July 1, 1895, of disbursing quartermasters, accounts of the bond-aided Pacific railroads, service over their nonbonded lines, and other transportation accounts settled through the transportation branch were \$1,967,919.62.

The following statement shows that during the fiscal year 1895 transportation was furnished for 434,500 persons, 4,357 animals, and 92,087 tons of material:

	Railroad.	Water.	Wagon.	Stage.	Govern-ment ves-sels.	Total.
Passengers:						
Officers	1, 933	166	.....	9	21, 543	23, 651
Men	35, 748	3, 511	6	1, 035	370, 549	410, 849
Total	37, 681	3, 677	6	1, 044	392, 092	434, 500
Animals:						
Horses.....	3, 666	217	.....	.....	61	3, 944
Mules	360	52	.....	.....	1	413
Total	4, 026	269	.....	.....	62	4, 357
Stores, pounds:						
Subsistence.....	22, 108, 831	2, 513, 379	14, 231, 883	696	2, 299, 598	41, 154, 387
Quartermaster.....	30, 170, 554	2, 882, 911	24, 293, 025	299	2, 086, 669	59, 433, 458
Ordnance	18, 086, 691	5, 223, 642	6, 698, 519	.....	2, 153, 795	32, 162, 647
Medical.....	748, 125	70, 425	1, 325, 789	270	28, 257	2, 242, 866
Signal Service.....	362, 272	9, 629	148, 191	4	212	520, 308
Miscellaneous	22, 744, 928	1, 909, 888	16, 864, 590	431	7, 141, 454	48, 661, 291
Total	94, 221, 401	12, 609, 874	63, 631, 997	1, 700	13, 709, 985	184, 174, 957

MOVEMENTS OF TROOPS.

The principal movements of troops during the year, with cost of same, exclusive of deductions on account of land grant and bond-aided railroads, have been as follows:

Troops.	Movements.	Cost.
3d Artillery.....	Headquarters and band and four batteries changing station in Department of the East.	\$8,954.77
1st Cavalry.....	One troop from Department of the East to Department of the Colorado.	4,170.76
Do.....	Headquarters and four troops from Department of the Colorado to Department of the Missouri.	11,280.51
2d Cavalry.....	One troop changing station in Department of the Missouri.....	28.00
Do.....	Three troops from Department of the Colorado to Department of the Missouri.	5,948.99
Do.....	Four troops changing station in Department of the Colorado.....	9,314.12
3d Cavalry.....	Four troops from Department of the Missouri to Department of the East.	9,377.91
Do.....	Headquarters and two troops changing station in Department of the Missouri.	3,168.86
4th Cavalry.....	Two troops changing station in Department of California.....	355.29
6th Cavalry.....	Three troops from Department of the Platte to Department of the Missouri.	3,547.51
Do.....	Four troops from Department of the Missouri to Department of the East.	4,884.00
7th Cavalry.....	One troop from Department of the East to Department of Texas.....	1,638.46
Do.....	Headquarters and four troops from Department of the Missouri to Department of the Colorado.	11,146.45
8th Cavalry.....	One troop from Department of the Missouri to Department of Dakota.	1,781.91
Do.....	One troop from Department of the East to Department of Dakota.....	3,032.22
9th Cavalry.....	One troop from Department of the East to Department of the Platte...	2,574.03
10th Cavalry.....	One troop from Department of the Missouri to Department of Dakota.	2,836.18
Do.....	Headquarters and band changing station in Department of Dakota....	1,065.67
1st Infantry.....	One company changing station in Department of California.....	401.15
5th Infantry.....	One company from Department of Texas to Department of the East...	958.75
Do.....	One company from Department of the Missouri to Department of the East.	987.95
Do.....	Headquarters and band and six companies changing station in Department of the East.	5,615.22
6th Infantry.....	One company changing station in Department of the East.....	963.70
7th Infantry.....	One company from Department of the Platte to Department of the Colorado.	40.28
Do.....	One company from Department of the Missouri to Department of the Colorado.	61.00
8th Infantry.....	Headquarters and band and five companies changing station in Department of the Platte.	7,746.88
9th Infantry.....	One company changing station in Department of the East.....	291.77
10th Infantry.....	Six companies changing station in Department of the Missouri.....	1,204.42
Do.....	One company from Department of California to Department of the Missouri.	2,282.99
Do.....	Headquarters and band and five companies from Department of the Colorado to Department of the Missouri.	10,688.41
11th Infantry.....	One company changing station in Department of the Colorado.....	430.98
12th Infantry.....	Headquarters and band and two companies from Department of the Missouri to Department of the Platte.	1,967.21
Do.....	Three companies from Department of Dakota to Department of the Platte.	3,854.87
Do.....	One company from Department of the East to Department of the Missouri.	4,224.90
13th Infantry....	Eight companies from Department of the Missouri to Department of the East.	16,601.30
14th Infantry....	One company from Department of the Missouri to Department of the Columbia.	928.90
Do.....	One company changing station in Department of the Columbia.....	936.41
17th Infantry....	Five companies from Department of the Platte to Department of the East.	3,857.54
18th Infantry....	Two companies changing station in Department of Texas.....	1,054.97
19th Infantry....	One company changing station in Department of the Missouri.....	105.75
20th Infantry....	Eight companies from Department of Dakota to Department of the Missouri.	16,369.40
21st Infantry....	Headquarters and band and five companies changing station in Department of the East.	3,335.10
22d Infantry....	Two companies changing station in Department of Dakota.....	1,727.96
Various.....	Memorial Day, May 30, New York City and Brooklyn, N. Y.....	58.75
Do.....	Memorial Day, May 30, Chicago, Ill.....	319.90
Do.....	Memorial Day, May 30, Marietta, Ga.....	88.90
Do.....	Band and five batteries from New York Harbor to New York City and return, escort at funeral of late Brig. Gen. John Newton, U.S.A.....	104.85
Do.....	One company each of the 10th, 12th, 13th, and 14th Infantry between points in Department of the Missouri, on account of anticipated trouble with Oklahoma boomers.	2,410.19
Do.....	Troops from posts in New York Harbor to take part in celebration of opening Harlem Ship Canal, June 17, 1895.	177.35
Total amount expended in the principal movements of troops during the year.		174,923.39

SUMMER ENCAMPMENTS AND RIFLE COMPETITION.

From reports received it is shown that there was expended during the fiscal year 1895, in the transportation of troops in connection with summer encampments, practice marches, field maneuvers, and instructions, the sum of \$8,361.44; also for the transportation of enlisted men, to engage in rifle competition and target practice, the sum of \$20,252.33.

Where expended.	Summer camps.	Rifle competition.
Department of the East.....	\$3,704.58	\$5,079.12
Department of the Missouri.....	2,740.66	3,064.66
Department of the Platte.....	31.86	2,408.13
Department of Dakota.....	915.19	2,193.29
Department of Texas.....	388.09	1,427.24
Department of the Colorado.....		4,852.34
Department of California.....	411.05	
Department of the Columbia.....	170.01	1,227.55
Total	8,361.44	20,252.33

COST OF LABOR TROUBLES TO THE ARMY.

In the summer of 1894 there occurred in the Western section of the country serious interference with transportation of the mails and suspension of public travel, due to insubordination of laborers going out on strikes in several branches of industry and of many unemployed men engaged in mob violence against those employed on the railroads, which caused the President of the United States to direct orders to be issued to the commanding generals of military departments to use the Army in the enforcement of law and suppression of these labor riots.

The many movements of troops rendered necessary by these orders have cost the appropriation for transportation of the Army, so far as could be ascertained, as follows:

Where expended.	Cost.
Department of the East.....	\$6,574.60
Department of the Missouri.....	27,931.37
Department of the Platte.....	53,129.33
Department of Dakota.....	58,653.42
Department of the Colorado.....	39,746.18
Department of California.....	12,480.12
Department of the Columbia.....	23,470.33
Total.....	221,985.35

BOND-AIDED PACIFIC RAILROADS.

Ten thousand nine hundred and six persons, 1,530 animals, and 40,203,252 pounds of freight were transported for the Army over the bond-aided Pacific railroads, their branches and leased lines during the year.

The service performed by each road is shown in the following table:

Company.	Persons transported.	Animals transported.	Freight transported.
			<i>Pounds.</i>
Union Pacific.....	6,858	1,049	20,247,633
Central Pacific (branches and leased lines operated by the Southern Pacific Co.).....	3,255	350	17,043,546
Sioux City and Pacific.....	793	431	2,912,073
Total.....	10,906	1,530	40,203,252

Twenty-two hundred and eleven accounts of these railroads, aggregating \$364,177.07, were received at this office during the year, examined, and transmitted for settlement through the Treasury, as required by law. Of this amount \$171,834.98 inured to the Union Pacific, \$191,204.52 to the Central Pacific, branches and leased lines, operated by the Southern Pacific Company, and \$1,137.57 to the Sioux City and Pacific Railroad.

Of these accounts 782, aggregating \$77,067.88, were for transportation performed for other Departments of the Government, under the law of July 5, 1884. Of this \$33,887.12 was for service over Union Pacific lines, \$43,166.78 for service over the Central Pacific, with its leased lines, operated by the Southern Pacific Company, and \$13.98 for service over the Sioux City and Pacific Railroad.

The following is a statement of the analysis of the accounts of these companies for the year, showing amounts for troops and stores and for bonded and nonbonded service, respectively:

Company.	Amount of ac- counts re- ceived in Quarter- master- General's Office.	Esti- mated amount of ac- counts not rendered.	Portion inuring for troops.	Portion inuring for stores.	Propor- tion subsi- dized.	Propor- tion unsub- sidized.	Total amount.
Union Pacific	\$171,834.98	\$36,295.00	\$63,968.10	\$144,161.88	\$195,892.10	\$12,237.88	\$208,129.98
Southern Pacific Co., op- erating Central Pacific R. R.	191,204.52	11,602.00	25,553.62	177,252.90	96,206.14	106,600.38	202,806.52
Sioux City and Pacific....	1,137.57	488.19	469.36	1,156.40	1,483.73	142.03	1,625.76
Total.....	364,177.07	48,385.19	89,991.08	322,571.18	293,581.97	118,980.29	412,562.26

PAYMENT OF ACCOUNTS OF NONBONDED LINES OF UNION PACIFIC.

The Honorable Secretary of the Treasury having, March 9, 1895, issued the following circular affecting the settlement of the accounts of the nonbonded lines of the Union Pacific system, and the Comptroller of the Treasury having, April 11, 1895, decided that the provisions of this circular were intended to authorize payment of the accounts of the nonbonded lines of the Union Pacific system named therein by disbursing officers, instructions were given to disbursing quartermasters by circular of the Quartermaster-General of April 13, 1895, directing the method of procedure under the Treasury circular:

CIRCULAR OF SECRETARY OF TREASURY.

1895.
DEPARTMENT CIRCULAR, {
No. 45.

TREASURY DEPARTMENT,
OFFICE OF THE SECRETARY,
DIVISION OF BOOKKEEPING AND WARRANTS,
Washington, D. C., March 9, 1895.

In this matter the receivers of the Union Pacific Railway Company have presented to the Secretary of the Treasury three letters, dated July 20, 1894, which call the attention of the Department to the retention of certain items for compensation for mail and other services rendered on certain portions of the Union Pacific Railway and certain other railroads referred to in said letters.

After careful examination of the statements made by the receivers and of the decisions of the courts applicable to this subject, I now make the following order:

1. All compensation for services rendered by the Union Pacific Railway Company to the United States between Omaha and Ogden shall be retained and applied as heretofore by crediting one-half thereof to the sinking fund and one-half thereof to the bond and interest account.

2. All compensation for services on the Kansas Division between Kansas City and a point $393\frac{1}{2}$ miles westerly therefrom, one-half of the said compensation shall be retained and applied to the bond and interest account and the other half thereof shall be paid to the Union Pacific Railway Company, or to the receivers thereof, or to their duly authorized agent or agents, as hereinafter provided.

3. All compensation for services rendered by the Union Pacific Railway Company to the United States on the said Kansas Division between the said point distant $393\frac{1}{2}$ miles west of Kansas City and Denver shall be paid to the said Union Pacific Railway Company or its receivers, or their duly authorized agent or agents, as hereinafter provided.

4. All compensation for services rendered by the Union Pacific Railway Company to the United States between the city of Denver and Cheyenne shall be paid over to the Union Pacific Railway Company or its receivers, or their duly authorized agent or agents, as hereinafter provided.

5. All compensation for services rendered by the Leavenworth Branch of the Union Pacific Railway Company, between Leavenworth and Lawrence, Kans., shall be paid over to the Union Pacific Railway Company, or its receivers, or their duly authorized agent or agents, as hereinafter provided.

6. All compensation for services rendered by the Union Pacific Railway Company to the United States upon and over the Omaha bridge between Council Bluffs and Omaha shall be paid to the Union Pacific Railway Company, or its receivers, or their duly authorized agent or agents, as hereinafter provided.

7. All compensation for services rendered by the Omaha and Republican Valley Railway Company to the United States upon the line of that railway shall be paid to the Omaha and Republican Valley Railway Company, or its receivers, or their duly authorized agent or agents, as hereinafter provided.

8. All compensation for services rendered by the Union Pacific, Lincoln and Colorado Railroad Company to the United States upon the line of that railroad shall be paid to the Union Pacific, Lincoln and Colorado Railroad Company, or its receivers, or their duly authorized agent or agents, as hereinafter provided.

9. All compensation for services rendered by the Kansas Central Railroad Company to the United States upon the line of that railroad shall be paid to the Kansas Central Railroad Company, or its receivers, or their duly authorized agent or agents, as hereinafter provided.

10. All compensation for services rendered by the Denver, Leadville and Gunnison Railway Company to the United States upon the line of that railway shall be paid to the Denver, Leadville and Gunnison Railway Company, or its receivers, or their duly authorized agent or agents, as hereinafter provided.

11. All compensation for services rendered by the Salina and Southwestern Railway Company to the United States upon the line of that railway shall be paid to the Salina and Southwestern Railway Company, or its receivers, or their duly authorized agent or agents, as hereinafter provided.

12. All compensation for services rendered by the Junction City and Fort Kearney Railway Company to the United States upon the line of that railway shall be paid to the Junction City and Fort Kearney Railway Company, or its receivers, or their duly authorized agent or agents, as hereinafter provided.

13. All compensation for services rendered by the Solomon Railroad Company to the United States upon the line of that railroad shall be paid to the Solomon Railroad Company, or its receivers, or their duly authorized agent or agents, as hereinafter provided.

14. All compensation for services rendered by the Denver and Boulder Valley Railroad Company (Brighton and Boulder Branch) to the United States upon the line of that railroad shall be paid to the Denver and Boulder Valley Railroad Company, or its receivers, or their duly authorized agent or agents, as hereinafter provided.

15. All compensation for services rendered by the Echo and Park City Railway Company to the United States upon the line of that railway shall be paid to the Echo and Park City Railway Company, or its receivers, or their duly authorized agent or agents, as hereinafter provided.

None of the payments hereinbefore directed to be made to any of the companies hereinbefore mentioned, or to their receivers, or their agent or agents, shall be made except upon the filing with this Department of a properly certified copy of the order of court appointing the person or persons named in the said order receiver or receivers of the said respective companies.

This order shall apply to all payments for compensation for services rendered since the appointment of said receivers, and which have been heretofore withheld awaiting the action of this Department, and to all future payments to the said respective companies until further ordered.

J. G. CARLISLE, *Secretary*.

CIRCULAR OF THE QUARTERMASTER-GENERAL.

CIRCULAR.]

WAR DEPARTMENT,
QUARTERMASTER-GENERAL'S OFFICE,
Washington, D. C., April 13, 1895.

The honorable the Secretary of the Treasury having directed that hereafter the accounts of the following-named lines, known as nonbonded lines of the Union Pacific system, viz: (1) Kansas Division, between a point 393 $\frac{1}{2}$ miles west of Kansas City and Denver; (2) Cheyenne Division, between the city of Denver and Cheyenne; (3) Leavenworth Branch, between Leavenworth and Lawrence, Kans.; (4) Omaha Bridge, between Council Bluffs and Omaha; (5) Omaha and Republican Valley Railway Company; (6) Union Pacific, Lincoln and Colorado Railroad Company; (7) Kansas Central Railroad Company; (8) Denver, Leadville and Gunnison Railway Company; (9) Salina and Southwestern Railway Company; (10) Junction City and Fort Kearney Railway Company; (11) Solomon Railroad Company; (12) Denver and Boulder Valley Railroad Company (Brighton and Boulder Branch); (13) Echo and Park City Railway Company, be paid in cash to the said roads or their "receivers or their duly authorized agent or agents;" and the Comptroller of the Treasury having decided April 11, 1895, that these instructions are intended to authorize "payment of the accounts of the nonbonded lines of the Union Pacific system named therein by disbursing officers," it is hereby directed, to enable disbursing officers to comply with the Treasury instructions—

1. That separate bills of lading and transportation requests be in all cases issued for any service required for the Army over the bond-aided lines of the Union Pacific Railway, viz, from Omaha to Ogden and from Kansas City to "a point 393 $\frac{1}{2}$ miles westerly therefrom."

Care will be exercised that no nonbonded service be included in such bills of lading or transportation requests.

2. The disbursing quartermaster at Omaha is hereby authorized to state and pay accounts for transportation for the Army over the nonbonded lines mentioned. Note will be made on bills of lading and transportation requests, by the officer issuing same, requiring service over any of the nonbonded lines mentioned, that they are payable at Omaha, Nebr.

For more specific information concerning the bonded lines of the Union Pacific Railway Company and laws governing same, see General Orders, No. 77, Adjutant-General's Office, November 21, 1892.

GEO. H. WEEKS,
Deputy Quartermaster-General, U. S. A.,
Acting Quartermaster-General.

VESSELS IN SERVICE OF THE QUARTERMASTER'S DEPARTMENT.

This Department has kept in service, at points where constant use is required, eight steamboats which it owns. The cost of maintaining these, including repairs, for the year 1895 was \$77,639.30, as follows:

Name.	Class.	Tonnage.	When purchased or built.	Cost or estimated value.
General Meigs.....	Propeller.....	175	May 11, 1892	\$64,436.42
Ordnance.....	do.....	97	Sept. 1, 1883	27,870.80
Atlantic.....	Steam tug.....	60.31	Oct. 15, 1878	18,865.56
Thayer.....	Steam launch.....	32.36	Oct. 8, 1874	7,200.00
Hamilton.....	do.....	37.68	Feb. 1, 1875	7,800.00
Monroe.....	do.....	62.36	Nov. 30, 1875	15,240.00
Resolute.....	Steam tug.....	70.30	Nov. 14, 1879	17,847.46
General McDowell.....	Propeller.....	160	Nov. 17, 1880	56,150.00

Name	By whom employed	Where employed	Paid for repairs	Paid for running expenses	Total expenses.
General Meigs.....	Depot quartermaster	New York Harbor.....	\$6,008.08	\$12,721.79	\$18,731.77
Ordnance.....	do.....	do.....	308.18	7,285.68	7,633.86
Atlantic.....	Post quartermaster.	Governors Island, New York Harbor.	710.00	10,915.51	11,625.51
Thayer.....	do.....	do.....	242.00	796.86	1,038.86
Hamilton.....	do.....	David's Island, New York Harbor		4,341.75	4,341.75
Monroe.....	do.....	Fort Adams, R. I.....	544.10	3,925.40	4,469.50
Resolute.....	do.....	Boston Mass.....	1,595.14	8,086.81	9,681.95
General McDowell.....	Chief quartermaster	San Francisco Harbor..	2,350.45	17,765.65	20,116.10
Total.....			11,819.55	65,819.45	77,639.30

STATEMENT OF CHARTERED VESSELS.

The following is a list of vessels temporarily used at times during the year by charter and hire, showing cost of such service to have been \$2,589.50:

Name.	Class.	Tonnage.	Period of service.
Nellie	Sloop	10	July 1, 1894, to June 30, 1895.
Wesley A. Gove	Steam tug	70.68	Sept. 10, 1894, to Dec. 3, 1894.
Erastus Baldwin	do	75.31	Nov. 28, 1894.
Nattie Sargent	do	35.16	Nov. 29, 1894.
William H. Clark	do	69.81	Feb. 23, 1895.
Anna	Tug	Unknown...	July 2, 1894, to June 21, 1895.
Unknown	Naphtha launch	do	Dec. 4, 1894.
Jim	Sloop	do	Dec. 8, 1894.
Kathleen	Naphtha launch	do	Nov. 28, 1894, to Dec. 24, 1894.
Vigilant	Steam tug	88	July 2, 1894.
Sonoma	Steamboat	305	Apr. 9, 1895, to Apr. 13, 1895.
Sea Queen	Steam tug	100	July 24, 1894, to Aug. 1, 1894.
Undine	Naphtha launch	Unknown ..	As desired.
Do	Steamer	do	July 30, 1894.
Do	do	do	Sept. 25, 1894.
Do	do	do	Mar. 6, 1895.
Do	do	do	June 25, 1895.
Mayflower	Steam tug	do	Aug. 21, 1894, and June 19, 1895.
Arcadia	Propeller	20	July 24 to 26, 1894.
Hornet	Steam launch	25	July 28 to Aug. 19, 1894.
Anna J. Kipp	Steam tug	43	June 3, 1895.

Name.	Where and by whom employed.	Rate.	Earnings.	Remarks.
Nellie	Post quartermaster, Fort Adams, R. I.	\$5 per day	\$245.00	When Monroe was not running.
Wesley A. Gove	Depot quartermaster, Boston, Mass.	\$14 round trip...	560.00	Replacing Resolute, undergoing repairs.
Erastus Baldwin	do	\$25 round trip...	25.00	Do.
Nattie Sargent	do	\$14 round trip...	14.00	Do.
William H. Clark	do	do	28.00	Do.
Anna	Post quartermaster, Fort Monroe, Va.	\$3 per hour.....	121.50	{Placing targets.
Unknown	Post quartermaster, Key West Barracks, Fla.	\$2.75 per hour...	124.50	
Jim	do	\$3 per job.....	3.00	Do.
Kathleen	do	\$2 per job.....	2.00	Do.
Vigilant	Chief quartermaster, San Francisco, Cal.	\$2.50 per job....	10.00	Do.
Sonoma	do	\$77.50 per job...	77.50	Carrying United States troops in connection with labor troubles.
Sea Queen	do	\$50 per day	250.00	While the General McDowell was being repaired.
Undine	do	\$65 per day	520.00	Do.
Do	Post quartermaster, San Diego Barracks, Cal.	\$5 per trip	65.00	Carrying officers on official visits to man-of-war in San Diego Harbor.
Do	Assistant quartermaster, Vancouver depot, Wash.	\$50 per job.....	50.00	Transporting troops.
Do	do	do	50.00	Do.
Do	do	\$30 per job.....	30.00	Do.
Do	do	\$100 per job.....	100.00	Do.
Mayflower	Post quartermaster, Fort Canby, Wash.	\$20 per day	40.00	Placing targets.
Arcadia	Depot quartermaster, New York Harbor.	\$8 per day	24.00	Replace Hamilton, being repaired.
Hornet	do	\$10 per day	230.00	Do.
Anna J. Kipp	do	\$20 per day	20.00	Replace Ordnance, being repaired.
Total			2,589.50	

TELEGRAPHING ON ARMY BUSINESS.

On July 6, 1894, the Postmaster-General promulgated the following new schedule to govern the transmission of telegrams on Government business during the fiscal year 1895 (see G. O. 38, A. G. O., 1894):

For day messages containing not more than twenty (20) words, exclusive of place from and date, twenty (20) cents, not exceeding one thousand (1,000) miles, and one cent for each additional word. One-quarter of this rate to be added for each five hundred (500) miles, or fraction thereof; but no rate on a message of twenty (20) words to be more than forty (40) cents, nor on an additional word more than two (2) cents. The rate between all points in any State, Territory, or the District of Columbia shall be twenty (20) cents for twenty (20) words, and one cent for each additional word.

As will be seen, these rates differ from those in force for the previous fiscal year, which fixed the minimum Government message at 10 body words, i. e., exclusive of place, date, address, and signature, while the new rates give 20 words to the minimum message and include address and signature.

For simplicity in computing distances on Government messages, the new order provides that, "instead of computing the actual distances of transmission, the distance for payment shall in all cases be taken absolutely to be the number of miles between the capital of the State or Territory, or from the city of Washington, if from within the District of Columbia, from within which (whatever the place) the message is sent, and the capital of the State or Territory, or the city of Washington, if within the District of Columbia, within which (whatever the place) the message is received, as shown in the accompanying table, wherein such distances are given as computed upon the shortest practicable route between such capitals and which is to be taken as part of this order."

Telegraphing for the Army has been performed under these provisions and been paid for by the disbursing quartermasters charged with that duty.

There have also been settled through this office 369 accounts for telegraphing, amounting to \$3,920.63.

ACCOUNTS AND CLAIMS FOR TRANSPORTATION.

The records show that 4,144 accounts and claims, amounting to \$511,235.93, were received, examined, and transmitted for settlement in this branch during the fiscal year ended June 30, 1895.

Of these 458, amounting to \$111,922.81, were chargeable to the appropriation for army transportation for the several years in which the services were rendered; 2,211, amounting to \$364,177.07, were for transportation over the bond-aided Pacific railroads, their leased lines and branches; 1,106, amounting to \$31,215.42 (exclusive of 782 accounts of the bond-aided Pacific railroads, amounting to \$77,067.88), were for other departments of the Government and were payable from the appropriations of the several departments for which the services were performed.

CAVALRY AND ARTILLERY HORSES.

The horses purchased for the cavalry during the year have averaged \$95.44 each; those for the artillery, \$148.04 each.

DRAFT ANIMALS.

The peaceful condition of the country, resulting from cessation of Indian wars and hostilities on the Rio Grande, appearing to the Quartermaster-General to render unnecessary the maintenance of post transportation on a field campaign basis, he suggested to the Secretary of War, September, 1894, the reduction of the number of draft and pack animals at the military posts to the actual requirements of the service.

On October 10, 1894, the Secretary directed the issue of General Orders, No. 51, Adjutant-General's Office, 1894, fixing the allowance of draft and pack animals as follows:

I. The allowance of draft and pack animals at all posts east of the Mississippi and immediately west of that river shall not exceed the rate of four for each post garrisoned by one company, with an additional allowance of two for each additional company at the post.

The allowance to departments will not exceed the following number:

	Animals.
Department of Dakota.....	550
Department of the Platte	425
Department of the Missouri	450
Department of Texas	300
Department of the Columbia.....	240
Department of California.....	160
Department of the Colorado	600

To carry this order into effect, chief quartermasters of the several military departments are directed to cause the sale at public auction of all surplus animals beyond the equipment authorized by this order before November 15 next.

The issue of this order has resulted in a curtailment of about 1,100 animals, which, with the wagons, harness, teamsters, hostlers, stables, and miscellaneous stable utensils, will make a saving of \$300,000 to appropriation army transportation, also (for feed and bedding of the animals) a saving of \$110,000 to appropriation for regular supplies.

Statement of draft and pack animals purchased during the fiscal year 1895.

For what department, depot, or post.	Horses.			Mules.		
	Num-ber.	Total cost.	Average cost.	Num-ber.	Total cost.	Average cost.
Department of the Columbia				18	\$2, 242. 80	\$124. 00
Department of the East	9	\$1, 276. 25	\$141. 81	37	4, 070. 70	110. 02
Department of the Missouri.....	4	585. 00	146. 25	38	4, 115. 30	108. 30
Department of California.....				7	1, 039. 50	148. 50
West Point.....	10	1, 615. 00	164. 50	1	125. 00	
Washington depot.....	7	1, 625. 00	232. 15			
Philadelphia depot	2	387. 50	193. 75			
St. Louis depot.....	2	187. 50	93. 75			
St. Louis clothing depot.....				1	100. 00	
Total	34	5, 706. 25	167. 83	102	11, 693. 80	114. 64

Statement of public animals sold during the fiscal year 1895.

Where sold.	Cavalry and artil- lery horses.		Draft horses.		Mules.	
	Num-ber.	Amount.	Num-ber.	Amount.	Num-ber.	Amount.
Department of the East	13	\$272. 00	10	\$242. 00	8	\$300. 75
Department of the Missquri.....	265	3, 886. 57	6	101. 00	84	1, 506. 75
Department of Dakota	114	1, 648. 45	8	107. 25	237	5, 332. 50
Department of the Colorado.....	112	1, 032. 50	2	40. 00	167	4, 276. 58
Department of the Columbia.....	44	435. 72	12	134. 03	69	948. 75
Department of California	30	311. 80	1	18. 00	31	737. 15
Department of Texas.....	40	1, 011. 15			55	2, 466. 00
Department of the Platte.....	83	1, 114. 62	1	13. 43	230	5, 566. 80
West Point.....	15	419. 50	4	97. 00	1	17. 00
Columbus Barracks.....			2	22. 50		
Washington depot.....	29	857. 00	14	703. 00	2	74. 00
Philadelphia depot.....			1	39. 00		
St. Louis depot.....					1	8. 00
Benicia Arsenal.....					1	2. 00
Total	745	10, 989. 31	61	1, 517. 21	886	21, 236. 28

Animals purchased, sold, died, etc., during year.

	Cavalry and artillery horses.	Team horses.	Mules.
On hand July 1, 1894	6,929	297	4,026
Purchased	682	34	102
Total to be accounted for.....	7,611	331	4,128
Sold.....	745	61	886
Died, strayed, and stolen.....	677	23	202
Total sold and died.....	1,422	84	1,088
On hand July 1, 1895.....	6,189	247	3,040

REGULAR SUPPLIES.

This branch has charge of all matters relating to the procurement and distribution of supplies, stoves, and heating apparatus, and repair and maintenance of same, for heating barracks and quarters; of ranges, stoves, and apparatus for cooking; of fuel and lights for enlisted men, guards, hospitals, storehouses, and offices, and for sales to officers; of equipment of bakehouses to carry on post bakeries; of the necessary furniture, text-books, paper, and equipments for the post schools; for the tableware and mess furniture for kitchens and mess halls for enlisted men; of forage and bedding for the public animals of the Quartermaster's Department, and for the authorized number of officers' horses; of straw for soldiers' bedding; of stationery and blank books for the Quartermaster's Department, certificates for discharged soldiers, blank forms for the Paymaster's and Quartermaster's Departments, and of the necessary correspondence connected with the work of this branch.

This branch has also charge of matters relating to all contracts to which the Quartermaster's Department is a party.

CONTRACTS.

During fiscal year ended June 30, 1895, 1,359 contracts were received, examined, and filed in this office. Seven hundred and eighty-seven were for 75,813 cords of wood, 259,030,500 pounds of coal, 31,057,994 pounds of oats, 8,482,000 pounds of straw, 62,492,540 pounds of hay, 3,411,300 pounds of bran, 3,572,900 pounds of corn, 9,035 bushels of charcoal, 5,163,000 pounds of barley, 20,000 pounds of middlings, and 40,000 pounds of shorts; 2 for indefinite quantities of fuel, forage, and straw; 60 for transportation; 4 for work on national cemeteries; 8 for services; 7 for grading; 7 for printing; 2 for gasoline; 76 for leases; 89 for buildings and building material; 19 for horses and mules; 13 for water and water supply; 20 for heating apparatus; 29 for plumbing and plumbing material; 131 for clothing, camp and garrison equipage; 6 for packing-boxes; 1 for lumber; 4 for machinery and machine parts; 2 for mineral oil; 6 for shoeing public animals; 5 for tableware and kitchen utensils; 15 for roadways and sidewalks; 1 for bridge; 2 for stoves and stove parts; 3 for wagon and wagon parts; 2 for books; 6 for sewerage system; 9 for gas piping; 3 for painting; 13 for lockers; 2 for target ranges; 4 for telephone service; 2 for disinterring remains of soldiers; 1 for bake oven; 5 for sanitary work; 1 for ambulance harness; 1 for driving well; 1 for building breakwater; 1 for headstones; 2 for boilers and fixtures; 1 for railroad trestle; 1 for railroad scale; 1 for repair of wharf; 1 for typewriting machines; 1 for dump and hand carts; 1 for steel water tank, and 1 for remodeling steam-heating apparatus.

The following are the payments made by quartermasters for purchases for the Army at general depots for use thereat, and for shipment elsewhere, during the fiscal year ended June 30, 1895, from appropriations pertaining to that period:

Depots.	Regular supplies.	Incidental expenses.	Barracks and quarters.	Army transportation.	Total.
New York.....	\$69,188.26	\$11,614.49	\$325.92	\$21,729.40	\$102,858.07
Philadelphia	38,311.36	732.55	404.47	10,025.18	49,473.56
St. Louis	4,149.77	36.50	16.28	11,774.69	15,977.24
Jeffersonville.....	43,291.82	230.49	159.30	7,029.56	50,711.17
San Francisco.....	21,730.09	6,962.56	6,200.60	21,487.76	56,381.01
Washington.....	74,569.57	518.33	513.50	9,719.06	85,320.46
Total.....	251,240.87	20,094.92	7,620.07	81,765.65	360,721.51

TABLEWARE AND KITCHEN UTENSILS.

Total cost of all tableware and kitchen utensils purchased at Philadelphia depot amounted to \$30,385.22.

Respectfully,

CHAS. BIRD,
Major and Quartermaster, United States Army.

WAR DEPARTMENT,
QUARTERMASTER-GENERAL'S OFFICE,
Washington, D. C., August 15, 1895.

GENERAL: I have the honor to submit my report of the work of the construction and repairs division of this office during the past fiscal year:

Under the head of "Barracks and quarters" there was provided by Congress in the act making appropriations for the support of the Army, approved August 6, 1894	\$650,000.00
Authorized for construction and repairs.....	\$546,960.55
Authorized for rent, labor, advertising, etc.....	102,185.69
	<u>649,146.24</u>
Balance June 30, 1895	853.76

NEW CONSTRUCTION.

During the year there has been authorized from this appropriation for the erection of public buildings at different military posts, consisting of barracks, officers' quarters, storehouses, stables, etc., the sum of \$321,464.95.

For the construction and repair of hospitals at military posts already established and occupied there have also been authorized from the appropriation for that purpose expenditures amounting to \$44,919.20, and for the construction and repair of hospital stewards' quarters at military posts already established and occupied from the appropriation "for construction of quarters for hospital stewards," \$6,969.30.

REPAIRS.

There have been authorized for repairs, alterations, and improvements to public buildings, and for the purchase of building materials and tools at various posts, from the barracks and quarters appropriation, expenditures amounting to \$225,495.60.

The different military departments and depots to which this money has been allotted are shown in the annexed statement:

Recapitulation of the expenditures authorized for construction, repairs, etc., from the appropriation for barracks and quarters, 1894-95.

Department or depot, etc.	Construction.	Repairs.	Total.
Department of the East.....	\$203,620.60	\$68,600.81	\$272,221.41
Department of the Missouri.....	58,063.00	30,374.76	88,437.76
Department of the Platte.....	3,745.00	13,660.01	17,405.01
Department of Dakota.....	41,266.65	28,737.98	70,004.63
Department of Texas.....	9,121.28	26,513.02	35,634.30
Department of the Colorado.....	3,872.30	27,506.31	31,378.61
Department of California.....	360.00	8,002.82	8,362.82
Department of the Columbia.....	1,416.12	12,976.42	14,392.54
Willets Point.....		2,964.68	2,964.68
Jeffersonville depot.....		3,800.00	3,800.00
New York depot.....		93.00	93.00
Philadelphia depot.....		545.10	545.10
St. Louis depot.....		1,243.00	1,243.00
San Francisco depot.....		148.69	148.69
Hot Springs Army and Navy General Hospital.....		326.75	326.75
West Point.....		2.25	2.25
Total.....	321,464.95	225,495.60	546,960.55

The following list shows the different buildings which have been authorized to be constructed at the various posts, the expenditures therefor being included in the foregoing statement under the head of construction:

Post.	Designation.	Material.	Amount authorized.
<i>Department of the East.</i>			
Fort Barrancas.....	Shed for hose reel.....	Wood.....	\$25.90
Columbus Barracks.....	Converting building No. 11 into 2 company barracks.	Brick.....	8,119.00
	Converting building No. 10 into 4 company barracks.	do.....	
	1 double set officers' quarters.....	do.....	10,700.00
Dauids Island.....	2 double sets officers' quarters.....	do.....	22,498.00
	8 sets bachelor officers' quarters.....	do.....	21,600.00
	6 additions to barrack Nos. 35, 38, and 40.....	do.....	19,400.00
Fort Ethan Allen.....	Oil house.....	Iron.....	200.00
	1 double set officers' quarters.....	Brick.....	11,636.00
	1 set hospital stewards' quarters.....	do.....	2,574.00
	Administration building.....	do.....	10,288.49
	Magazine.....	do.....	551.00
Key West Barracks.....	Privy for enlisted men.....	Wood.....	206.60
	1 plotting house and 2 observaton stations..	do.....	160.00
	Gun shed.....	do.....	324.75
Madison Barracks.....	Addition to quartermaster's stable and new wagon shed attached.	do.....	1,608.50
	Alterations in old barracks No. 60.....	Stone.....	3,839.42
	Alterations in old barracks No. 75.....	do.....	3,323.58
	Storm sheds for officers' quarters and barracks.	Wood.....	118.85
Fort Myer.....	Alterations in barracks Nos. 10 and 11.....	do.....	1,265.60
	2 double sets officers' quarters.....	Brick.....	24,658.00
	1 double set noncommissioned staff officers' quarters.	do.....	3,568.40
	1 guardhouse.....	do.....	12,741.00
Fort Niagara.....	Water-closet building.....	do.....	763.00
	Water-closet building on camp ground.....	Wood.....	247.00
Plattsburg Barracks...	Quartermaster and subsistence storehouse..	Brick.....	8,295.80
	1 set commanding officer's quarters.....	do.....	9,880.80
	Fuel storehouse.....	Wood.....	2,051.91
	Railroad and loading platform at storehouse.	do.....	500.00
	Wagon shed.....	do.....	1,587.00
	Enlarging quartermaster's stable.....	Brick.....	2,187.00
	Altering old stone barracks into band barrack and 6 sets noncommissioned staff officers' quarters.	Stone.....	9,295.00
St. Francis Barracks...	Mess hall and kitchen.....	Wood.....	3,315.00
	Water-closet building for noncommissioned staff officers.	do.....	249.23
	Rebuilding bakehouse and blacksmith shop.	do.....	1,420.27

Post.	Designation.	Material.	Amount authorized.
<i>Department of the East—Continued.</i>			
Fort Thomas.....	1 set noncommissioned staff officers' quarters	Brick.....	\$1,688.00
	Enlargement boiler house.....	do.....	507.00
Fort Wadsworth.....	Garbage cremator.....	do.....	1,478.00
Washington Barracks.	Alterations in subsistence storehouse.....	do.....	750.50
	Total.....		303,620.00
<i>Department of the Missouri.</i>			
Fort Brady.....	Mineral oil house.....	Iron.....	150.00
	Wagon shed.....	Wood.....	1,448.00
	Ice house.....	do.....	50.00
	Shed for wood saw.....	do.....	102.50
Jefferson Barracks.....	Quartermaster and subsistence storehouse..	Brick.....	7,564.00
	3 cavalry stables.....	do.....	28,978.00
	1 cavalry stable.....	do.....	9,500.00
Fort Leavenworth....	Addition to Sherman Hall for school purposes.	do.....	10,128.00
Fort Sill.....	Wagon shed.....	Wood.....	140.50
	Total.....		58,083.00
<i>Department of the Platte.</i>			
Fort Robinson.....	2 cavalry stables.....	Wood.....	2,045.00
	Stables for field officers.....	do.....	108.00
	Total.....		2,153.00
<i>Department of Dakota.</i>			
Fort Assiniboine.....	Cold-storage room.....		35.86
Fort Harrison.....	Hospital.....	Brick.....	14,300.00
	Hospital steward's quarters.....	do.....	1,328.44
	Fuel storehouse.....	Wood.....	1,000.00
	Administration building.....	Brick.....	8,742.00
	1 double set officers' quarters.....	do.....	9,540.25
	1 double set noncommissioned staff officers' quarters.	do.....	1,827.00
Fort Keogh.....	Sawmill.....	Wood.....	361.79
	Addition to bath house.....	do.....	460.79
Fort Meade.....	Workshops.....	do.....	1,347.00
	Wagon shed.....	do.....	1,108.00
Fort Snelling.....	Addition to coal shed.....	do.....	627.91
Fort Yates.....	Coal shed.....	do.....	432.00
Fort Yellowstone....	Root house.....	do.....	278.11
	Total.....		41,264.05
<i>Department of Texas.</i>			
Fort Bliss.....	Coal shed.....	Wood.....	2,360.00
	Workshops.....	Stone.....	2,700.00
	Wagon shed.....	Wood.....	650.00
	4 earth closets.....	do.....	1,465.00
	Corral fence.....	do.....	225.78
Fort Brown.....	Wagon shed.....	do.....	803.30
Fort Clark.....	Fencing yard for cavalry horses.....	do.....	108.67
Fort Hancock.....	Rebuilding shops.....	Brick.....	284.00
Fort Sam Houston....	Riding track and visitors' stand.....	do.....	436.48
	Total.....		9,131.28
<i>Department of the Colorado.</i>			
Fort Grant.....	Dining room and kitchen for barrack No. 2..	Adobe.....	1,102.67
	1 set noncommissioned staff officers' quarters	do.....	284.20
	Addition to building No. 47.....	do.....	635.36
Fort Logan.....	Oil house.....	Iron.....	152.00
	Double stable guardhouse.....	Brick.....	265.00
Fort Wingate.....	Addition to cavalry stable No. 36.....	Wood.....	745.67
	Total.....		2,872.30

*NOTE.—These figures represent a part only of the contract price of the above buildings, payable from the appropriation for barracks and quarters, the balance being chargeable to the appropriation "military posts, Helena."

Post.	Designation.	Material.	Amount authorized.
<i>Department of California.</i>			
Fort Mason.....	Mineral oil house.....	Wood and iron....	\$260. 00
San Diego Barracks....	Addition to office building.....	Wood.....	100. 00
	Total.....		360. 00
<i>Department of the Columbia.</i>			
Fort Canby.....	Addition to wash-rooms building No. 13.....	Wood.....	554. 00
Vancouver Barracks...	Mineral oil house.....	Iron.....	119. 00
Fort Walla Walla.....	Hay shed.....	Wood.....	743. 12
	Total.....		1, 416. 12

Authorizations have also been made from the appropriation for regular supplies, for construction of buildings, etc., as follows:

Post.	Designation.	Material.	Amount authorized.
Fort Ethan Allen.....	Forage storehouse.....	Brick.....	\$3, 487. 00
Fort McHenry.....	Bake oven.....	do.....	820. 00
Fort Myer.....	Forage storehouse.....	do.....	3, 556. 00
Plattsburg Barracks.....	do.....	do.....	3, 251. 41
St. Francis Barracks.....	Bake oven.....	do.....	625. 00
Little Rock, new post.....	do.....	do.....	1, 090. 00
Fort Robinson.....	Forage storehouse.....	do.....	2, 990. 00
Fort Snelling.....	do.....	do.....	1, 348. 00
Fort Yellowstone.....	do.....	Wood.....	1, 374. 10
Fort Bliss.....	do.....	Brick.....	4, 444. 00
Fort McIntosh.....	Enlargement forage storehouse.....	Wood.....	500. 00
San Antonio.....	Forage storehouse.....	Wood and iron....	2, 035. 00
Fort Bayard.....	do.....	Wood.....	1, 254. 27
Fort Grant.....	3 forage storehouses.....	do.....	4, 324. 33
	Total.....		31, 099. 11

MILITARY POSTS.

For the construction of buildings at and the enlargement of such military posts as in the judgment of the Secretary of War may be necessary Congress, in the act making appropriations for sundry civil expenses of the Government for the fiscal year ended June 30, 1895, provided \$200, 000. 00

The following amounts from prior appropriations for military posts also became available for expenditure within the fiscal year 1894-95:

Balance reported June 30, 1894.....	110, 968. 11
Portion of cost of building under construction at Fort Crook, made chargeable to "barracks and quarters" appropriation 1894, in lieu of "military posts".....	15, 000. 00
Portion of cost of barrack building at Plattsburg Barracks, N. Y., made chargeable to appropriation for "military posts, Plattsburg, N. Y.," in lieu of "military posts".....	358.
Savings from allotments to Fort Crook, Fort Bliss, and Madison barracks.....	204. 22
Total to be accounted for.....	326, 530. 86

The above sum has been apportioned as follows:

Post.	Character of construction, etc.	Amount allotted.
Fort Crook.....	Eight sets bachelor officers' quarters, barrack wing for four companies, wagon shed, garbage cremator, magazine, corral fence, and additional cost of steward's quarters.. \$67, 832. 00 Extra work on new buildings, pay of employees, and advertising..... 2 226. 75	\$70, 058. 75
Presidio of San Francisco.....	Double barrack..... 34, 877. 00 Advertising 64. 27	34, 941. 27
Fort Myer.....	Double barrack and administration building. 45, 135. 00 Extra work in barracks..... 465. 00	45, 600. 00
New Post near Little Rock, Ark.	Double barrack, three double sets officers' quarters, hospital, quartermaster's stable, quartermaster and subsistence storehouse, two double sets noncommissioned staff officers' quarters, guardhouse, bakehouse, mess buildings, outbuilding, hospital steward's quarters, magazine, coal shed, and shops... 115, 676. 00 Extra work on hospital, printing, and advertising 924. 03	116, 600. 03
Jefferson Barracks.....	Cavalry stable and two double sets noncommissioned staff officers' quarters.	14, 620. 00
Plattsburg Barracks.....	Hospital building and fire-apparatus building. \$20, 000. 00 Extra work on new buildings, printing, and advertising..... 1, 383. 80	21, 383. 80
Fort Bliss.....	Reconstruction of buildings damaged by storm.....	9, 000. 00
Fort Yates	Pump house	500. 00
Philadelphia depot	Lumber shed at Schuylkill Arsenal.....	550. 00
Fort Trumbull.....	Repairs to quarters Nos. 4, 5, and 6.....	400. 00
Madison Barracks.....	Extra work	119. 76
Fort Wayne.....	Printing, advertising, etc	76. 61
Fort Thomas	Extra work on quarters Nos. 50 to 53	60. 00
Columbus Barracks.....	Extra work on mess hall.....	133. 00
Fort Harrison	Railroad platforms, printing, and advertising.....	109. 35
Fort Thomas.....	Printing and advertising	48. 23
Fort Ethan Allen.....	do	81. 00
Fort Sheridan	Advertising	75. 90
	Settlement of accounts in Treasury miscellaneous charges	11, 683. 37
	Balance June 30, 1895	489. 79
	Total accounted for.....	326, 530. 86

The character and cost of the buildings authorized during the year, at the different military posts and chargeable to the amount indicated in the preceding table, are as stated below.

The expense of plumbing, heating, and gas piping in the buildings, unless otherwise shown, is chargeable to other appropriations of the Quartermaster's Department.

FORT MYER, VA.

At this post the following buildings have been contracted for during the last year:

One double barrack (brick).....	\$30, 997. 00
Extra work on same.....	465. 00
One administration building (brick).....	14, 158. 00
Total	45, 620. 00
Plumbing in barrack.....	2, 800. 00
Plumbing in administration building.....	480. 75
Total	3, 280. 75
Heating in barrack.....	3, 145. 00
Heating in administration building.....	1, 632. 00
Total	4, 777. 00

Gas piping in barrack	\$299. 00
Gas piping in administration building	85. 00
Total	<u>384. 00</u>

PLATTSBURG BARRACKS, N. Y.

The following-named additional buildings have been contracted for at this post:

Hospital (brick)	\$18, 400. 00
Fire-apparatus building (brick)	1, 600. 00
Total	<u>20, 000. 00</u>
Plumbing in hospital	1, 275. 00
Plumbing in fire-apparatus building.....	100. 00
Total	<u>1, 375. 00</u>
Heating in hospital	4, 691. 00
Gas piping in hospital	100. 00

NEW POST NEAR LITTLE ROCK, ARK.

The following buildings are being constructed under contract:

Three double sets officers' quarters (brick), Nos. 12, 13, and 14	\$35, 425. 00
One double barrack (brick), No. 1.....	21, 920. 00
One double outbuilding (brick), No. 3.....	2, 355. 00
Two mess buildings (brick), Nos. 2 and 4.....	8, 192. 00
Hospital (brick), No. 11.....	12, 425. 00
Extra work on same.....	175. 00
Quartermaster and subsistence storehouse (brick), No. 7.....	8, 000. 00
Two double sets noncommissioned staff officers' quarters (brick), Nos. 9 and 10	6, 927. 00
Guardhouse (brick), No. 5.....	5, 377. 00
Bakehouse (brick), No. 6.....	2, 000. 00
Quartermaster's stable (brick), No. 8	5, 125. 00
Hospital steward's quarters (brick).....	2, 645. 00
Coal shed (brick)	2, 071. 00
Magazine (brick)	532. 00
Shops (brick).....	2, 682. 00
Total	<u>115, 851. 00</u>
Plumbing in three sets officers' quarters.....	2, 542. 41
Plumbing in outbuilding.....	1, 942. 00
Plumbing in hospital	545. 00
Plumbing in two sets noncommissioned staff officers' quarters.....	795. 90
Plumbing in guardhouse.....	516. 66
Plumbing in quartermaster's stable	174. 00
Plumbing in mess building.....	158. 00
Plumbing in hospital steward's quarters.....	133. 00
Total	<u>6, 806. 97</u>
Heating in three sets officers' quarters.....	2, 793. 00
Gas piping in three sets officers' quarters	197. 34

FORT CROOK, NEBR.

Work at this post is being continued by the construction of—

Eight sets bachelor officers' quarters (brick).....	\$19, 500. 00
Barrack wing for four companies (brick)	42, 900. 00
Wagon shed (brick).....	1, 900. 00
Cremator (brick)	2, 100. 00
Magazine (brick)	750. 00
Corral fence	82. 00
Hospital steward's quarters (brick).....	2, 300. 00
Total	<u>69, 532. 00</u>

Plumbing in bachelor officers' quarters	\$1, 800. 00
Plumbing in barrack wing	4, 500. 00
Plumbing in steward's quarters	290. 00
Total	6, 590. 00
Heating in bachelor officers' quarters	1, 900. 00
Heating in barrack wing	7, 945. 00
Total	9, 845. 00
Gas piping in bachelor officers' quarters	140. 00
Gas piping in barrack wing	350. 00
Gas piping in hospital steward's quarters	20. 00
Total	510. 00

FORT YATES, N. DAK.

At this post there is being constructed—

A pump house	\$500. 00
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SCHUYLKILL ARSENAL, PHILADELPHIA DEPOT, PA.

Contract has been entered into for the construction at this depot of—

A lumber shed	\$550. 00
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JEFFERSON BARRACKS, MO.

There are in course of erection at this station the following buildings:

One cavalry stable	\$9, 500. 00
Two double sets noncommissioned staff officers' quarters, No. 19	5, 120. 00
Total	14, 620. 00
Plumbing in stable	340. 00
Plumbing in noncommissioned staff officers' quarters	544. 00
Total	884. 00
Gas piping in noncommissioned staff officers' quarters	50. 00

THE PRESIDIO OF SAN FRANCISCO, CAL.

Additional improvements at this post are being made by the erection of—

One double barrack (brick)	\$34, 877. 00
Plumbing in same	2, 275. 00
Gas piping in same	180. 00
Total	37, 332. 00

TREES AND TREE CULTURE.

Cultivation of young trees has been continued during the year, and the trees generally are in a satisfactory condition. Considerable labor has been necessary to keep the younger trees from being choked by lupine and in removal of weeds and grass to facilitate their growth.

In January 11,925 cypress and 3,760 eucalyptus trees (of own raising) were set out to replace trees of former plantings that had died.

Under authority from this office, dated June 12, 1895, for a systematic course of tree planting in the southwest corner of the reservation, sufficient seed has been purchased to raise about 20,000 cypress and 16,000

eucalyptus trees, and proposals will be invited for furnishing and delivering on the reservation in January, February, and March, 1896, of 66,000 2-year-old pine trees. It is estimated that the trees to be obtained by these means will suffice to plant so much of the southwest corner of the reservation as is required to be done next year.

FENCES, GATEWAYS, AND ROADS.

During the year numerous necessary repairs have been made to fences inclosing young trees.

Under authority of April 5 and 20, inclosing fences heretofore existing and not considered of any further necessity have been removed, and the material therefrom is being used in repairing other fences which can not yet be dispensed with.

The construction of a roadway from First to McDowell avenues, by way of the new pumping station, having been authorized, a contract has been entered into with A. E. Buckman to construct the roadway for the sum of \$7,595. The work is now in progress.

The construction of stone and iron gateways at Lombard street and First avenue entrances having been authorized, contracts have been entered into for the former at \$1,699, and the latter at \$1,474, and the gateways are now being built.

Efforts have been continued to have Lombard street, at the crossing of Pierce street, repaired in accordance with the pledge of the city authorities given when Lombard street was macadamized by the Government between Van Ness avenue and the Presidio, with the result that the board of supervisors has advertised for proposals for the work.

EXPENDITURES.

Expenditures during the year from special appropriations for improvements on the reservation have been as follows, viz:

From appropriation of \$10,000, act of Congress approved August 5, 1892:	
Labor in cultivating, planting, and watering trees, plowing and preparing nursery, repairing fences, etc.....	\$952. 46
Purchase of shears and tools for trimming and cultivating trees.....	5. 50
Purchase of lumber, nails, and staples for repair of fences.....	28. 63
Purchase of tree seed.....	23. 00
Making blue prints of plans for proposed stone wall.....	3. 80
Advertising for proposals for proposed stone wall.....	44. 86
Total	1, 058. 25
Expenditures previously reported.....	7, 319. 34
Balance on hand June 30, 1895.....	1, 622. 41
Appropriation	10, 000. 00
From appropriation of \$10,000, act of Congress approved August 18, 1894:	
Making blue prints of plans of authorized roadway and gateways....	18. 92
Services of engineer setting line grade and witness stakes of authorized roadway	40. 00
Services of draftsman making detail drawings for gateways.....	10. 00
Advertising for proposals for roadway.....	43. 91
Total	112. 83
Balance on hand June 30, 1895.....	9, 887. 17
Appropriation	10, 000. 00

In addition to the foregoing the sum of \$159.50, appropriation "Army transportation," has been expended during the year for repairing the flume and ditches that drain the Presidio marsh.

COLUMBUS BARRACKS, OHIO.

In the act making appropriation for support of the Army for the fiscal year ending June 30, 1896, approved February 12, 1895, Congress provided that \$100,000 of the sum appropriated under the head of barracks and quarters "shall be immediately available for improvements, barracks, officers' quarters, and other buildings at Columbus Barracks."

Under authority of this law the following work has been contracted for at this post:

One double set noncommissioned staff officers' quarters.....	\$3,200.00
Eight sets bachelor officers' quarters.....	17,230.00
Infantry drill hall.....	19,900.00
Three double sets officers' quarters.....	34,000.00
Quartermaster's storehouse.....	4,470.00
Guardhouse	13,787.00
Total.....	92,587.00
Plumbing in noncommissioned staff officers' quarters.....	363.00
Plumbing in bachelor officers' quarters.....	1,634.00
Plumbing in three double sets officers' quarters	2,558.00
Plumbing in guardhouse.....	1,099.50
Total.....	5,654.50
Heating in bachelor officers' quarters.....	1,861.00
Heating in three sets officers' quarters.....	3,114.00
Heating in guardhouse.....	1,373.20
Total.....	6,348.20
Gas piping in noncommissioned staff officers' quarters	40.00
Gas piping in bachelor officers' quarters.....	118.00
Gas piping in three sets officers' quarters.....	250.00
Gas piping in guardhouse	70.00
Total.....	478.00

FORT HARRISON, MONT.

Contracts have been made for construction of the following buildings at this post:

Wagon shed	\$1,300.00
Shop building.....	3,800.00
Hospital.....	16,200.00
Hospital steward's quarters	2,395.00
Fuel storehouse.....	2,060.00
One double set noncommissioned staff officers' quarters	3,212.00
Administration building	9,992.00
One double set officers' quarters	10,890.00
Total.....	49,849.00

Of this amount \$36,594.69 will be paid from the appropriation "barracks and quarters" and \$13,254.31 from the \$100,000 appropriated by the act of Congress of May 12, 1892.

Plumbing in hospital	\$537.90
Plumbing in hospital steward's quarters.....	140.00
Plumbing in noncommissioned staff officers' quarters.....	348.80
Plumbing in administration building	425.00
Plumbing in double set officers' quarters.....	723.86
Total.....	2,175.56

Heating in hospital	\$3,705.60
Heating in administration building	1,220.00
Heating in double set officers' quarters	1,010.00
Total	5,935.60

Gas piping in hospital	87.50
Gas piping in hospital steward's quarters	10.50
Gas piping in administration building	47.50
Gas piping in double set officers' quarters	72.60
Total	218.10

Expenditures authorized for water, sewerage, and plumbing systems for drainage and for roads, walks, grading, bridges, wharves, etc., chargeable to the appropriation for army transportation.

Post.	Plumbing, water sup- ply, sewer- age, and drainage.	Roads, walks, grading, bridges, etc.	Wharves.	Miscel- laneous.
Fort Adams	\$545.01	\$827.33	\$305.00	\$435.00
Alcatraz Island	377.58		4,224.60	
Angel Island	104.98		2,275.00	
Fort Apache	493.92			
Fort Assinniboine	426.40	18.00		480.00
Fort Barrancas	757.27			480.80
Fort Bayard	1,210.68			
Benicia Barracks	1,148.51	63.50		
Fort Bliss	839.83			
Boise Barracks	489.85			
Fort Brady	594.60	27.75		
Fort Brown	477.85	49.00		207.50
Buffalo, N. Y.				8.00
Fort Buford	1,102.00	25.90		420.00
Fort Canby	527.99	108.00	160.00	
Chicago, Ill.	9.00			
Fort Clark	1,717.05	69.60		501.30
Columbus Barracks	7,454.87	608.52		390.10
Fort Columbus		300.24		
Fort Constitution	5.25			
Fort Crook	7,598.38	9,000.00		21.50
Fort Custer	1,101.66	12.00		480.00
Fort D. A. Russell	368.25	324.50		48.00
Dauids Island	10,483.10	2.41	4.50	2,194.50
Fort Douglas	1,703.66	134.00		41.25
Camp Eagle Pass	1,399.20			46.00
Fort Ethan Allen	2,727.53	2,700.00		221.80
Fort Foote	59.50			
Governors Island	851.92	10.00		
Fort Grant	2,042.35			
Fort Hamilton	1,144.46	481.00		214.50
Fort Hancock	830.64			
Fort Harrison	3,867.80	9,238.00		202.00
Hot Springs Army and Navy Hospital	307.58			
Fort Huachuca	698.66			
Jackson Barracks	1,438.18	700.00		444.00
Jefferson Barracks	3,675.56	7,137.34		
Jeffersonville depot	61.50	562.00		
Fort Keogh	951.17			
Key West Barracks	112.27			192.55
Fort Leavenworth	17,271.79			622.50
Little Rock, new post	49,965.00	21,000.00		
Fort Logan	3,120.44	29.05		112.00
Fort McHenry	332.66	170.63		570.00
Fort McIntosh	1,351.56			
Fort McKinney	127.67			
Fort McPherson	874.33	29.55		102.50
Fort Mackinac	59.64	75.00		
Madison Barracks	4,580.48	5,656.80		60.00
Fort Marcy	29.86			
Fort Marion				12.00
Fort Mason	596.23	500.00	642.68	
Fort Meade	1,966.31	218.73		
Fort Missoula	354.87	72.05		480.00
Fort Monroe	1,923.13	104.00		604.65
Mount Vernon Barracks	67.59			
Fort Myer	19,370.50	8,084.10		180.00
Newport, R. I.			20.00	
Newport Barracks	18.69			

Expenditures authorized for water, sewerage, and plumbing systems for drainage and for roads, walks, grading, bridges, wharves, etc.—Continued.

Post.	Plumbing, water sup- ply, sewer- age, and drainage.	Roads, walks, grading, bridges, etc.	Wharves.	Miscel- laneous.
New York depot.....	\$1,005.36	.....	.....	.....
Fort Niagara.....	2,795.15	\$114.20	.....	\$67.50
Fort Niobrara.....	1,251.33	.....	.....	.....
Omaha depot.....	90.00	.....	.....	.....
Fort Omaha.....	314.33	.....	.....	478.40
Fort Ontario.....	230.07	.....	.....	.....
Fort Pembina.....	205.13	55.20	.....	300.00
Philadelphia depot.....	64.50	187.00	.....	.....
Fort Pickens.....	3.50	.....	.....	.....
Plattsburg Barracks.....	13,259.30	4,571.30	.....	3,327.00
Fort Porter.....	316.43	330.00	.....	15.00
Fort Preble.....	353.12	.....	.....	25.25
Presidio of San Francisco.....	14,881.66	18,076.86	\$19,482.00	54.50
Rawlins, Wyo.....	48.00	.....	.....	.....
Fort Reno.....	8,060.32	.....	.....	.....
Fort Riley.....	1,304.81	1,835.25	.....	427.00
Fort Ringgold.....	2,268.15	214.98	.....	31.33
Fort Robinson.....	322.73	50.00	.....	.....
St. Francis Barracks.....	598.15	.....	.....	652.50
St. Paul, Minn., Army building.....	73.00	.....	.....	.....
St. Louis depot.....	35.00	120.00	.....	.....
Fort Sam Houston.....	982.31	510.00	.....	1,487.47
San Antonio depot, etc.....	398.25	100.00	.....	.....
San Carlos.....	315.99	.....	.....	.....
San Diego Barracks.....	1.50	.....	.....	.....
Sandy Hook, N. J.....	.....	18,474.55	.....	.....
Fort Schuyler.....	423.60	225.00	1,150.00	7.50
Fort Sheridan.....	3,571.82	4,615.50	31.60	41.88
Fort Sherman.....	890.36	54.00	.....	186.00
Fort Sill.....	677.52	275.68	.....	.....
Fort Snelling.....	1,212.21	.....	.....	.....
Fort Spokane.....	532.20	.....	.....	.....
Fort Stanton.....	150.26	.....	.....	.....
Fort Sully.....	61.56	.....	.....	105.00
Fort Supply.....	153.41	.....	.....	.....
Fort Thomas.....	1,381.20	2,137.18	.....	24.55
Fort Townsend.....	30.55	72.20	.....	.....
Fort Trumbull.....	978.46	.....	191.00	.....
Vancouver Barracks.....	1,096.92	12.50	1,756.50	.....
Vancouver depot.....	1,189.52	.....	.....	.....
Fort Wadsworth.....	402.73	18.50	.....	.....
Fort Walla Walla.....	934.99	.....	.....	46.00
Fort Warren.....	2,379.95	500.00	.....	.....
Fort Washakie.....	8.05	30.00	.....	.....
Washington Barracks.....	659.57	1,700.00	.....	64.00
Fort Washington.....	5.00	.....	.....	.....
Fort Wayne.....	2,261.24	3,787.36	583.45	28.00
West Point.....	.....	225.00	.....	163.85
Whipple Barracks.....	.....	517.58	.....	.....
Willetts Point.....	1,709.50	562.50	.....	75.00
Fort Wingate.....	412.52	18.75	.....	.....
Fort Wood.....	18.85	.....	150.00	.....
Fort Yates.....	827.86	97.70	.....	485.20
Fort Yellowstone.....	2,980.61	.....	.....	.....
Total.....	235,845.31	127,778.39	30,926.33	17,772.38

Grand total, \$412,322.41.

Expenditures authorized for lighting, heating, and cooking apparatus chargeable to the appropriation for regular supplies for 1894-95.

Station.	Amount.	Station.	Amount.
Fort Adams, R. I.....	\$64. 95	Fort Myer, Va	\$10, 681. 50
Fort Bliss, Tex.....	47. 06	Fort Niagara, N. Y	93. 00
Fort Brady, Mich.....	173. 84	Philadelphia depot, Pa.....	82. 35
Columbus Barracks, Ohio.....	10, 131. 07	Plattsburg Barracks, N. Y.....	6, 851. 98
Fort Crook, Nebr.....	10, 358. 60	Fort Porter, N. Y.....	36. 25
Davids Island, N. Y.....	14, 187. 56	Fort Preble, Me	68. 45
Denver, Colo.....	2. 00	Presidio of San Francisco, Cal.....	180. 00
Fort Ethan Allen, Vt.....	2, 983. 70	Fort Reno, Okla.....	182. 13
Governors Island, N. Y.....	10. 00	Fort Riley, Kans.....	1, 449. 88
Fort Grant, Ariz.....	11. 70	St. Paul, Minn	84. 33
Fort Hamilton, N. Y.....	414. 00	San Francisco depot, Cal.....	9. 00
Fort Harrison, Mont.....	6, 153. 70	Fort Schuyler, N. Y	21. 95
Hot Springs Army and Navy Hospi- tal, Ark.....	441. 33	Fort Sheridan, Ill.....	1, 886. 16
Jefferson Barracks, Mo.....	1, 761. 42	Fort Thomas, Ky	5, 825. 60
Jeffersonville depot, Ind.....	633. 50	Vancouver depot, Wash.....	14. 25
Fort Leavenworth, Kans.....	5, 336. 65	Fort Wadsworth, N. Y	12. 00
Little Rock, Ark., new post near.....	6, 480. 00	Washington Barracks, D. C	275. 56
Fort Logan, Colo.....	569. 75	Fort Wayne, Mich.....	203. 25
Madison Barracks, N. Y.....	4, 512. 69	Willets Point, N. Y.....	562. 25
Fort McHenry, Md.....	2, 235. 00	Fort Yellowstone, Wyo.....	3. 00
Fort McPherson, Ga.....	75. 00		
Fort Monroe, Va.....	696. 35	Total	95, 802. 76

“ For shelter, shooting galleries, ranges for small-arms target practice, repairs, and expenses incident thereto,” Congress, in the army act of August 6, 1894, appropriated \$15,000, with the express provision that \$5,000 of this sum, or so much thereof as may be necessary, shall be used “in the construction of a permanent rifle range at Fort Snelling, Minn.” This range has been constructed in compliance with the law at a cost of \$4,302.95, leaving a balance of \$697.05.

The remaining \$10,000 has been apportioned as follows:

Department or post.	Character of work.	Amount.
Department of the East	Repairs, etc.....	\$1, 321. 83
Department of the Missouri	do	1, 737. 43
Department of the Platte.....	do	290. 15
Department of Dakota.....	do	68. 02
Department of Texas	do	1, 091. 53
Department of the Colorado.....	do	1, 583. 50
Department of California	do	305. 30
Department of the Columbia.....	do	282. 09
Fort Sheridan	Printing programme.....	30. 00
Fort Crook, Nebr.....	Construction of range.....	1, 445. 00
Do.....	Advertising	22. 10
Madison Barracks, N. Y.....	Rent of range	300. 00
Fort Clark, Tex	Repairs to range.....	179. 62
Fort Niagara, N. Y.....	Hire of riding horses.....	33. 00
Fort Ethan Allen, Vt	Construction of range.....	1, 250. 00
Balance June 30, 1894		60. 43
Total		10, 000. 00

HOSPITALS.

In the act making appropriations for the support of the Army for the fiscal year ended June 30, 1895, Congress appropriated \$45,000 for construction and repairs of hospitals at military posts already established and occupied, including the extra-duty pay of enlisted men employed on the same. This fund has been disbursed by officers of the Quartermaster's Department on estimates approved by the Surgeon-General of the Army, as follows:

Department and post.	Amount.	Department and post.	Amount.
<i>Department of the East.</i>		<i>Department of Dakota—Continued.</i>	
Fort Barrancas	\$18,991.17	Fort Yates	\$332.10
Columbus Barracks	472.00	Fort Yellowstone	56.84
Fort Columbus	47.00	Total	3,337.66
Devils Island	293.42	<i>Department of Texas.</i>	
Fort Hamilton	455.00	Fort Bliss	21.25
Jackson Barracks	40.50	Fort Brown	493.00
Key West Barracks	220.33	Fort Clark	871.32
Madison Barracks	149.91	Camp Eagle Pass	326.06
Fort McHenry	12,786.62	Fort Hancock	174.33
Fort Myer	525.37	Fort McIntosh	140.00
Fort Niagara	383.32	Fort Ringgold	147.98
Fort Porter	30.00	Fort Sam Houston	703.39
Fort Preble	115.86	Total	2,844.25
Fort Schuyler	173.96	<i>Department of California.</i>	
St. Francis Barracks	93.20	Angel Island	144.00
Fort Trumbull	193.93	Bentley Barracks	153.94
Fort Wadsworth	679.81	Presidio of San Francisco	166.00
Washington Barracks	1,540.60	Total	463.90
Total	29,191.80	<i>Department of the Colorado.</i>	
<i>Department of the Missouri.</i>		Fort Apache	643.92
Fort Brady	150.00	Fort Bayard	175.00
Jefferson Barracks	11.50	Fort Bowie	55.25
Fort Leavenworth	499.40	Fort Douglas	504.23
Fort Reno	460.81	Fort Du Chene	371.67
Fort Riley	549.98	Fort Grant	499.05
Fort Sheridan	548.47	Fort Huachuca	348.84
Fort Sill	500.00	Fort Logan	194.00
Fort Supply	119.98	San Carlos	300.00
Fort Wayne	294.95	Fort Stanton	140.00
Total	3,129.09	Whipple Barracks	395.45
<i>Department of the Platte.</i>		Fort Wingate	460.00
Fort D. A. Russell	125.00	Total	3,930.49
Fort Niobrara	187.20	<i>Department of the Columbia.</i>	
Fort Omaha	60.25	Fort Canby	29.43
Fort Robinson	300.00	Fort Sherman	43.87
Fort Washakie	98.00	Fort Spokane	84.98
Total	700.45	Fort Townsend	83.30
<i>Department of Dakota.</i>		Vancouver Barracks	73.78
Fort Assiniboine	704.21	Fort Walla Walla	164.36
Fort Buford	295.31	Total	470.43
Fort Custer	280.25	<i>Independent posts.</i>	
Fort Keogh	499.93	Hot Springs Army and Navy Hos-	
Fort Meade	214.40	pital	798.50
Camp Merritt	150.24	Balance on hand June 30, 1895	80.80
Fort Missoula	124.84	Grand total	45,000.00
Fort Pembina	147.56		
Fort Snelling	440.25		
Fort Sully	90.49		

The above statement includes the cost of new hospitals in process of erection at Fort Barrancas, Fla., and Fort McHenry, Md.

In addition to these a hospital is being constructed at Fort Meade, S. Dak., under authority contained in the "act making appropriations for sundry civil expenses of the Government for the fiscal year ending June 30, 1896," approved March 2, 1895, which provides \$25,000 for that purpose, the money to be immediately available.

The contract price of this building is as follows:

Construction proper.....	\$16, 611
Hot water heating	5, 200
Plumbing and gas piping.....	1, 302
Total	23, 113

HOSPITAL STEWARDS' QUARTERS.

In the Army appropriation act for the fiscal year ended June 30, 1895, Congress also appropriated \$7,000 for construction of quarters for hospital stewards at military posts already established and occupied, including the extra-duty pay of enlisted men employed on the same.

This sum has been apportioned to the posts named below:

Post.	Amount.	Post.	Amount.
Alcatraz Island.....	\$58. 52	Fort Myer.....	\$39. 28
Fort Apache.....	73. 95	Fort Niobrara	35. 99
Fort Barrancas	1, 568. 30	Fort Pembina.....	83. 20
Fort Canby.....	76. 00	Fort Preble.....	16. 00
Fort Clark.....	169. 32	Fort Reno	74. 50
Fort Custer.....	58. 61	Fort Riley	64. 05
Fort D. A. Russell.....	19. 71	Fort Ringgold	183. 33
Fort DuChesne	323. 50	Fort Sam Houston.....	100. 00
Fort Hamilton.....	142. 00	San Carlos.....	25. 56
Fort Hancock.....	75. 00	Fort Schuyler	22. 00
Fort Huachuca	149. 66	Fort Sherman.....	26. 99
Jackson Barracks.....	20. 00	Fort Sill	40. 00
Jefferson Barracks.....	175. 00	Fort Supply	47. 55
Fort Keogh.....	71. 72	Fort Thomas	322. 00
Key West Barracks.....	1, 642. 60	Fort Trumbull.....	90. 00
Fort Leavenworth	98. 95	Vancouver Barracks.....	16. 03
Fort Logan	6. 00	Fort Washakie	17. 10
Madison Barracks	10. 90	Washington Barracks	1. 95
Fort Mason.....	135. 44	Fort Wayne	200. 90
Fort McHenry.....	284. 00	Willets Point.....	41. 81
Fort McIntosh.....	44. 00	Fort Wingate.....	85. 38
Fort McKinney.....	50. 92	Fort Yates.....	19. 05
Fort McPherson	17. 00	Balance June 30, 1895	30. 70
Fort Meade.....	75. 94		
Fort Missoula	44. 59		
Fort Monroe.....	75. 00	Total	7, 000. 00

Included in this statement is the cost of a set of hospital stewards' quarters at Fort Barrancas and Key West Barracks, Fla.

DAMAGES BY STORMS.

On April 5, 1895, the post of Fort Bliss, Tex., was visited by a severe wind storm which caused damage to the buildings at that station, amounting approximately to \$20,715. Work of repairing the buildings was at once commenced and they will soon be again ready for occupancy.

On the 6th of May, 1895, ten buildings at the quartermaster's depot at Omaha, Nebr., were damaged by a terrific hail storm to the extent of \$1,463.60.

Losses by fire.

Post.	Buildings.	Remarks.
Fort Buford, N. Dak.....	Barracks used as post exchange, No. 13...	Destroyed.
Fort Hancock, Tex.....	Sawmill, etc., No. 43.....	Cost of repairs, \$200.
	Blacksmith and wheelwright shops, No. 21.	Destroyed.
	Gymnasium and quartermaster's stable, Nos. 35 and 36.	Do.
Jackson Barracks, La.....	Barracks (battery).....	Loss nominal.
Fort Keogh, Mont.....	Barracks, No. 18.....	Destroyed.
Madison Barracks, N. Y.....	Boiler house.....	Damage estimated at \$30.
Fort Marion, Fla.....	Reservation fence.....	Portion destroyed.
Fort McKinney, Wyo.....	Sawmill, No. 45.....	Destroyed.
Fort Meade, S. Dak.....	Bath house, No. 36.....	Cost of repairs, \$417.80.
	Hospital, No. 25.....	Destroyed.
Fort Pembina, N. Dak.....	Quartermaster and commissary storehouse, No. 9.	Do.
	Company barracks, No. 10.....	Do.
	Company kitchen and mess room, No. 11.	Do.
	Company barracks, No. 12.....	Do.
	Company kitchen and mess room, No. 13.	Do.
	2 company washhouses and bathrooms, No. 14.	Do.
	Magazine, No. 15.....	Roof and doors damaged.
	Oil house, No. 16.....	Destroyed.
	2 company earth closets, No. 17.....	Do.
	Old guardhouse, used as post library, No. 18.	Do.
	Bakery, No. 19.....	Do.
	2 sheds.....	Do.
Presidio of San Francisco, Cal.	Gun shed, No. 50.....	Do.
	Quartermaster wagon shed, No. 51.....	Damaged.
Fort Robinson, Nebr.....	Officers' quarters, No. 110.....	Damaged to extent of \$100.
Fort Sam Houston, Tex.....	Barracks, No. 51.....	Wing of building damaged.
	Officers' quarters, No. 27.....	Cost of repairs, \$138.46
	Hospital.....	Repairs, \$399.
San Antonio, Tex.....	Officers quarters, No. 4.....	Repairs, \$37.94.
Fort Townsend, Wash.....	Barracks and subsistence storehouse....	Destroyed.
Fort Yates, N. Dak.....	Pump house, No. 43.....	Do.

Statement of property rented by the Quartermaster's Department during the fiscal year and the amount of rent paid therefor.

DEPARTMENT OF THE EAST.

Post or station.	Kind of property.	Purpose for which used.	Monthly rate of rent.	Total amount for year.
Baltimore, Md.....	5 rooms.....	Office for quartermaster and subsistence departments.	\$83.83	\$999.96
Boston, Mass.....	8 rooms.....	Office and storerooms, quartermaster and subsistence departments.	90.00	1,080.00
New Orleans, La.....	5 rooms.....	Office and storeroom, quartermaster and subsistence departments.	70.00	840.00
Providence, R. I.....	1 room.....	Office inspector of ordnance.....	25.00	25.00
Atlanta, Ga.....	2 rooms.....	Office for paymaster.....	25.00	300.00
	.....do.....	Office quartermaster.....	25.00	300.00
Buffalo, N. Y.....	3 rooms.....	Office depot quartermaster.....	62.50	750.00
Fort McPherson, Ga.....	1 room.....	Quarters for ordnance sergeant.....	10.00	50.00
Washington, D. C.....	.....do.....	Quarters for veterinary surgeon, Fort Myer.	12.00	96.00
Plattsburg, N. Y.....	.....do.....	Quarters for hospital steward.....	11.00	80.30
Southport, N. C.....	.....do.....	Quarters for ordnance sergeant.....	8.00	40.00
Cincinnati, Ohio.....	3 rooms.....	Offices purchasing commissary subsistence.	35.00	420.00
Newport, Ky.....	.....do.....	Stable accommodations for two public horses.	10.00	120.00
Burlington, Vt.....	1 room.....	Office constructing quartermaster, Fort Ethan Allen.	12.50	150.00
	Building.....	Stable for public animals.....	12.00	144.00
Sacketts Harbor, N. Y..	1 room.....	Office constructing quartermaster, Madison Barracks.	15.00	180.00
	Building.....	Stable and shed for public animals.....	7.00	84.00
Total.....				5,650.26

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Statement of property rented by the Quartermaster's Department during the fiscal year and the amount of rent paid therefor—Continued.

DEPARTMENT OF THE MISSOURI.

Post or station.	Kind of property.	Purpose for which used.	Monthly rate of rent.	Total amount for year.
Chicago, Ill.....	28 rooms.....	Offices, headquarters department	\$1,000.00	\$12,000.00
	6 floors.....	Office, subsistence department and storehouse for quartermaster and subsistence departments.	416.66	4,999.92
	Building.....	Stable for animals, quartermaster's department.	150.00	1,800.00
	1 room.....	Quarters for hospital steward.....	12.00	144.00
	Do	Quarters for signal sergeant.....	12.00	96.00
	Do	do	12.00	50.80
	Do	do	12.00	12.80
	2 rooms.....	Office for signal corps.....		28.00
	1 room.....	do		28.00
	Do	do		1.00
	2 rooms.....	do		3.50
	do	Office for subsistence department.....	50.00	600.00
	1 room.....	Office for pay department.....	25.00	300.00
Kansas City, Mo.....		Shelter for teamsters and mules.....	25.00	50.00
Leavenworth, Kans.....		Camp ground for troops.....		50.00
Rush Springs, Okla.....		Camp ground for troops en route from Fort Wayne to Monroe, Mich., and return.		18.00
Evanston, Ill.....		Camp ground for troops from Fort Wayne en route to Mount Clemens, Mich., and return.		27.00
Fort Wayne, Mich.....		Office and for storage of United States property for constructing quartermaster, Fort Wayne, Mich.	30.00	360.00
Detroit, Mich.....	Building.....	Office for constructing quartermaster ..	30.00	240.00
		Stable, for public animals.....	5.00	45.00
Little Rock, Ark.....	3 rooms.....	Office, constructing quartermaster, Fort Sheridan, Ill.	20.00	240.00
Highland Park, Ill.....	4 rooms.....			
Total				21,094.02

DEPARTMENT OF THE PLATTE.

Omaha, Nebr.....	41 rooms.....	Office for department headquarters	\$666.67	\$8,000.00
Ogden, Utah.....	1 room.....	Quarters for commissary sergeant.....	12.00	144.00
	2 rooms.....	Offices and storeroom, quartermaster's agent.	32.00	384.00
Total				8,528.00

DEPARTMENT OF DAKOTA.

Helena, Mont.....	5 rooms.....	Offices, quartermaster's department	\$50.00	\$600.00
	1 room.....	Storeroom, quartermaster's department.	10.00	120.00
	3 rooms.....	Stable, quartermaster's department.....	10.00	120.00
	Ground	Camp for United States troops.....	25.00	25.00
	Do	do	* 5.00	10.00
Pine Bend, Minn.....	do	do	* 15.00	15.00
Hastings, Minn.....	do	do	* 10.00	10.00
Evanston, Minn.....	do	do	* 15.00	15.00
Red Wing, Minn.....	do	do	* 15.00	15.00
Butte, Minn.....	do	do	* 5.00	140.00
Total				1,070.00

* Per day.

Statement of property rented by the Quartermaster's Department during the fiscal year and the amount of rent paid therefor—Continued.

DEPARTMENT OF TEXAS.

Post or station.	Kind of property.	Purpose for which used.	Monthly rate of rent.	Total amount for year.
Edinburg, Tex.....	Building and ground.	Quarters and storeroom for a detachment.	\$15.50	\$180.00
Santa Maria, Tex.....	do.....	do.....		150.00
Hebbronville, Tex.....	1 room.....	Office for quartermaster's agent.....	8.00	96.00
Laredo, Tex.....	do.....	Quarters for signal sergeant.....	12.00	144.00
San Antonio, Tex.....	do.....	do.....	12.00	144.00
	Do.....	do.....	12.00	144.00
	Do.....	do.....	12.00	144.00
	Do.....	Quarters for veterinary surgeon.....	12.00	144.00
	Do.....	Quarters for commissary sergeant.....	12.00	132.00
El Paso, Tex.....	do.....	Quarters for signal sergeant.....	12.00	30.00
	Do.....	Office, constructing quartermaster, Fort Bliss, Tex.	18.00	18.00
Total.....				1,326.00

DEPARTMENT OF CALIFORNIA.

San Francisco, Cal.....	45 rooms.....	Offices for department headquarters....	\$750.00	\$9,000.00
	4 stalls.....	Stabling for public animals, etc.....	47.00	564.00
	1 room.....	Quarters, signal sergeant.....	12.00	144.00
	Do.....	do.....	12.00	20.40
Los Angeles, Cal.....	do.....	Office, purchasing commissary subsistence.	30.00	360.00
	Do.....	Office, inspector-general.....	30.00	90.00
San Diego, Cal.....	Building.....	Post hospital.....	75.00	900.00
	21 rooms.....	Officers' quarters.....	12.00	139.00
	17 rooms.....	do.....	12.00	545.00
	16 rooms.....	do.....	12.00	184.00
	14 rooms.....	do.....	12.00	307.20
	11 rooms.....	do.....	12.00	660.00
Total.....				12,914.80

DEPARTMENT OF THE COLORADO.

Albuquerque, N. Mex....	2 rooms.....	Offices for paymasters.....	\$25.00	\$475.00
Carthage, N. Mex.....	1 room.....	Quarters for signal sergeant.....	12.00	144.00
Cooleys, Ariz.....	do.....	do.....	12.00	144.00
Denver, Colo.....	46 rooms.....	Headquarters Department of the Colorado.	666.66	7,999.92
	Building.....	Stable, quartermaster's department.....	50.00	593.33
	3 rooms.....	Quarters, signal sergeants.....	12.00	412.40
Holbrook, Ariz.....	1 room.....	do.....	12.00	144.00
Fort Marcy, N. Mex.....	2 rooms.....	Offices for paymasters.....	20.00	86.67
	Do.....	Quarters for chief musician and regimental quartermaster sergeant.	18.00	60.00
	1 room.....	Quarters for sergeant-major.....	11.00	36.67
	Do.....	Quarters, principal musician.....	10.00	33.33
	Do.....	do.....	12.00	40.00
	Do.....	Quarters, commissary sergeant.....	10.00	46.33
Price, Utah.....	do.....	Lodgings for recruits.....	4.00	28.00
	Building.....	Quartermaster's warehouse.....	20.00	240.00
Taylor's Ranch, Utah...	1 room.....	Quarters for signal sergeant.....	10.00	120.00
Wilcox, Ariz.....		Lodgings for recruits.....		3.75
	2 rooms.....	Quarters for signal sergeants.....	12.00	152.20
	1 room.....	Storerooms for storage of property incidental to exchange of First and Seventh regiments of cavalry.		90.00
Total.....				10,858.00

DEPARTMENT OF THE COLUMBIA.

Portland, Oreg.....	6 rooms.....	Offices of chief paymaster and depot quartermaster.	\$77.00	\$924.00
Walla Walla, Wash.....	1 room.....	Office of paymaster.....	30.00	360.00
Wallace, Idaho.....	Grounds.....	Camp for United States troops.....		25.00
Kellogg, Idaho.....	do.....	do.....		4.67
Total.....				1,313.67

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Statement of property rented by the Quartermaster's Department during the fiscal year and the amount of rent paid therefor—Continued.

GENERAL DEPOTS OF THE QUARTERMASTER'S DEPARTMENT.

Post or station.	Kind of property.	Purpose for which used.	Monthly rate of rent.	Total amount for year.
New York depot	1 room	Quarters for hospital steward.....	\$14. 00	\$140. 00
	Building.....	Stable and carriage house for public animals, etc.	112. 50	1, 350. 00
Total				1, 490. 00
Philadelphia depot	14 rooms	Offices, storerooms, etc.....	179. 17	2, 150. 04
	1 room	Office, attending surgeon.....	{ 15. 00 } 18. 00	177. 00
Total				2, 327. 04
Washington depot.....	Ground.....	Stables and storehouses	150. 00	1, 800. 00
	Do	Offices, storerooms, etc., for subsistence department.	25. 00	250. 00
	Do	do	25. 00	250. 00
	1 room.....	Quarters for hospital steward.....	21. 00	252. 00
	Do	Quarters for signal sergeant	12. 00	144. 00
	Do	do	12. 00	84. 00
	Do	do	12. 00	144. 00
	Do	Quarters for hospital steward.....	12. 00	144. 00
	Do	do	12. 00	144. 00
	Do	Quarters for private hospital corps.....	12. 00	144. 00
	Do	do	12. 00	132. 80
	Do	Quarters for sergeant signal corps	12. 00	11. 20
	Do	do	12. 00	7. 20
	Do	do	12. 00	1. 20
		Office for military attaché, Paris, France.....		360. 00
		Office for military attaché, Berlin, Germany.		360. 00
		Office for military attaché, St. Petersburg, Russia.		336. 00
		Office for military attaché, London, England.		144. 00
		Office for military attaché, Rome, Italy.		300. 00
		Office for military attaché, Vienna, Austria.		180. 00
		Office for military attaché, Madrid, Spain.		131. 84
		Office for military attaché, Tokyo, Japan.		150. 00
		Office for military attaché, Brussels, Belgium.		144. 00
Total				5, 614. 24
St. Louis depot.....	Building.....	Storehouse, medical department	166. 67	2, 000. 04
San Francisco depot.....	do	Offices and storerooms, medical, subsistences, and quartermaster's departments.	833. 33	9, 999. 96
		Storehouse for quartermaster's supplies.	125. 00	1, 500. 00
		Storage of oils and turpentine, per gallon, \$0.00½; per barrel, \$0.15.		831. 16
	1 room.....	Quarters for commissary sergeant.....	12. 00	62. 00
	Do	do	12. 00	18. 00
Total				12, 411. 12

RECAPITULATION.

Department, etc.	Amount.
Department of the East.....	\$5, 659. 26
Department of the Missouri.....	21, 094. 02
Department of the Platte.....	8, 528. 00
Department of Dakota	1, 070. 00
Department of Texas.....	1, 326. 00
Department of California	12, 914. 80
Department of the Colorado.....	10, 858. 60
Department of the Columbia	1, 313. 67
New York depot.....	1, 490. 00
Philadelphia depot	2, 327. 04
Washington depot.....	5, 614. 24
St. Louis depot.....	2, 000. 04
San Francisco depot.....	12, 411. 12
Total	86, 606. 79

RESERVATIONS.

The sale of land at northwest corner of Penn avenue and Garrison alley, Pittsburg, Pa., authorized by act of May 21, 1890 (Public, 125), was made at public auction November 8, 1894, to Charles McKnight, for \$215,000. This sum was received by the depot quartermaster, this city, and after payment of expenses of sale, amounting to \$440.55, the balance, \$214,559.45, was deposited by him in the Treasury to credit of miscellaneous receipts. The deed for the property was executed by the Secretary of War December 3, 1894.

The appropriation of \$16,500 made by act of June 27, 1890 (G. O. 69 of 1890), for purchase of land for target ranges at Fort McPherson, Ga., still remains unexpended, no definite site fulfilling needed requirements having as yet been determined upon.

Under terms of act approved July 8, 1886 (G. O. 52 of 1886), the grounds comprising Old Fort Brady, Mich., authorized to be sold, were duly platted, appraised, etc., and under public advertisement the buildings and old fencing located thereon were sold at auction October 25, 1893, for the sum of \$2,072.50.

Since October 24, 1893, 23 lots have been sold at public and private sale (at not less than appraised value), the total amount realized being \$22,670.31, which sum (less cost attending sales) has been deposited in the Treasury.

The unsold lots are in charge of the post quartermaster, Fort Brady, Mich., to whom application for purchase is made.

Under act approved March 1, 1890, the military reservation of Old Fort Bliss, Tex., was platted, appraised, and advertised to be sold March 5, 1894, but sale was postponed pending action upon certain bills then before Congress.

In act making appropriation for sundry civil expenses of the Government, approved August 18, 1894 (G. O. 43 of 1894), \$7,000 is granted for acquiring additional lands, not exceeding 190 acres, at Fort Ethan Allen, Vt.

The owner of the desired grounds not being willing to sell for the sum appropriated, measures are now being taken, through the Department of Justice, for securing same by condemnation proceedings.

In act making appropriation for support of the Army, approved May 6, 1894 (G. O. 32 of 1894), \$8,500 is appropriated for the purchase of land for a target range at Sacketts Harbor, near Madison Barracks, N. Y.

Under this act 805.91 acres at Stony Point, 16 miles from Madison Barracks, have, under direction of Secretary of War, been purchased within the appropriation, favorable opinion regarding title having been rendered by the Department of Justice.

Under act of March 3, 1885, the purchase of the Fort Brown, Tex., reservation has been consummated.

The Department of Justice having rendered opinion that complete title is vested in the United States, in obedience to instructions of the Assistant Secretary of War the \$160,000 granted by act referred to was paid April 26, 1895, by check of depot quartermaster, this city, drawn on the Treasurer, United States, to the order of James Stillman and Thomas Carson as administrators of the estate of Maria Josefa Cavazos, deceased.

The money was paid unconditionally and in full settlement of all claims of every description against the United States on account of this reservation.

Under act approved March 1, 1895 (Public, 91), the lands and buildings known as Mount Vernon Barracks, Ala., were on April 10, 1895, relinquished to the State (G. O. 38 of 1895).

Under act approved July 31, 1894 (Public, 136), all right, title, and interest of the property known as Newport Barracks, Ky., was transferred January 1, 1895, to the city of Newport, Ky.

The General Orders affecting military reservation, etc., published during the fiscal year, are as follows:

General Orders, No. 33 of 1894 directs Jefferson Barracks, Mo., Columbus Barracks, Ohio, and Davids Island, N. Y., be garrisoned by troops of the line by October 1, 1894, or as soon thereafter as practicable. Jefferson Barracks then to be taken up as a military post of the Department of the Missouri and Columbus Barracks and Davids Island as military posts of the Department of the East.

General Orders, No. 34 of 1894 discontinues the ordnance depots at Fort Snelling, Minn., Omaha, Nebr., and Vancouver Barracks, Wash., and transfers the buildings to the Quartermaster's Department.

General Orders, No. 45 of 1894 announces the abandonment of the following posts under usual orders, etc.: Fort Marcy, N. Mex.; Fort Bowie, Ariz.; Fort McKinney, Wyo.; Fort Sully, S. Dak.; Fort Supply, Okla.; Fort Mackinac, Mich.; Fort Ontario, N. Y.; Newport Barracks, Ky.; Mount Vernon Barracks, Ala.; and the following are announced as subposts: San Carlos, Ariz., to Fort Grant; Fort Wood, N. Y., to Fort Columbus; Camp Pilot Butte, Wyo., to Fort Douglas.

General Orders, No. 63 of 1894 announces transfer of the following reservations to the Interior Department:

The reservation on the west side of Narrows of Puget Sound at south side entrance of Gig Harbor declared by Executive order of February 22, 1866, containing 582.1 acres.

The reservation on the west side of Narrows of Puget Sound declared by Executive order of same date, containing 637.4 acres.

The reservation on west side of Narrows of Puget Sound south of Point Evans declared by same Executive order, containing 635 acres.

The reservation on the north side of Gig Harbor at Narrows of Puget Sound declared by Executive order of June 9, 1868, containing 539.33 acres.

The military reservation of Fort Sully, S. Dak., containing 25,984 acres.

The military reservation of Fort Bowie, Ariz., containing 23,040 acres.

The military reservation of Fort McKinney, Wyo., containing 24,960 acres.

The military reservation of Fort Sidney, Nebr., containing 620 acres. Also the wood and timber reservation 28 miles distant from the post, containing 3,195 acres.

The military reservation of Fort Supply, Okla., containing 40,320 acres.

General Orders, No. 10 of 1895 publishes Army appropriation act approved February 12, 1895:

* * * That upon the transfer and conveyance to the United States of a good and sufficient title to not less than one thousand acres of land without cost to the United States, situated at or near the city of Spokane, in the county of Spokane, in the State of Washington, and on or near a railroad, and constituting an eligible and suitable site for an army post, if approved and accepted by the Secretary of War for that purpose, then and thereupon the Secretary of War is hereby authorized to establish and locate on said land a United States Army post of such character and capacity as the Secretary of War shall direct and approve.

General Orders, No. 13 of 1895 publishes sundry civil act approved March 2, 1895:

* * * That the Secretary of War is hereby authorized, within his discretion, to establish a military post at such point on Puget Sound as shall in his judgment best subserve the public interests: *Provided*, That 640 acres of land suitable for the purpose shall be donated free of cost to the United States, or such greater quantity of land as in the opinion of the Secretary of War shall be necessary for that purpose: *Provided further*, That the Secretary of War is hereby authorized, within his discretion, to establish a military post at or near the city of Bismarck, N. Dak., in place of the present post of Fort Yates, to be abandoned, as in his judgment shall best subserve the public interests: *Provided*, That a sufficient quantity of land, not less than 640 acres, as in the opinion of the Secretary of War will be suitable for the purpose shall be donated free of cost to the United States. Said post to be established only after a thorough official examination of all the sites that may be offered to the United States for the purpose above mentioned, such examination to be made by a board of three army officers, to be selected by the Secretary of War outside of the military district in which such post is to be established; and said board shall report its findings in all matters to the Secretary of War for his action.

The Secretary of War is hereby authorized, on the application of the governor of Michigan, to turn over to the State of Michigan, for use as a State park, and for no other purpose, the military reservation and buildings and the lands of the national park on Mackinac Island, Michigan: *Provided*, That whenever the State ceases to use the land for the purpose aforesaid it shall revert to the United States.

That the Secretary of War, at the request of the governor of the State of Wyoming, is hereby authorized and empowered, in his discretion, to select and set apart one hundred and sixty acres of land that may no longer be required for military purposes, in the Fort D. A. Russell Military Reservation, in the said State, for the use of the said State for agricultural fair and industrial exposition grounds, and for other public purposes. That the lands so set apart are hereby granted to the State of Wyoming: *Provided*, That the entry and selection of lands under the provisions of this act shall be construed as being in part satisfaction of the grant of lands to the State of Wyoming for charitable, educational, penal, and reformatory institutions under the provisions of section eleven of the act of Congress of July tenth, anno Domini eighteen hundred and ninety. * * *

The military prison at Fort Leavenworth, Kans., including all the buildings, grounds, and other property connected therewith, is hereby transferred from the Department of War to the Department of Justice, to be known as the United States Penitentiary, and to be used for the confinement of persons convicted in the United States courts of crimes against the United States and sentenced to imprisonment in a penitentiary, or convicted by courts-martial of offenses now punishable by confinement in a penitentiary and sentenced to terms of imprisonment of more than one year.

General Orders, No. 19 of 1895 publishes the following:

Transfer by the President, December 3, 1894, of the "lands embraced in fractional section 2, township 47 north, range 1 west, Michigan meridian, which was reserved from sale for the use of Fort Brady, Mich., by Executive order of September 2, 1847."

Boundaries of certain tracts of lands situated near or adjacent to the Fort Wadsworth, New York Harbor, reservation recently purchased by the United States for fortification purposes, all being "placed in the custody and under the supervision of the commanding officer of the post of Fort Wadsworth, N. Y."

Transfer by President December 7, 1894, to Interior Department of Depot McKinney, Wyo., military reservation.

Transfer by President January 19, 1895, to Interior Department, of the military timber reservation known as Council Grove, theretofore set apart for use of Fort Reno, Okla.

Action of President of February 3, 1895, reserving from sale certain lands for a rifle range, etc., in connection with the post of Fort Brady, Mich.

Said lands are located near Rexford Station, on the line of the Duluth, South Shore and Atlantic Railroad in Chippewa County, Mich., 27 miles west from Sault Ste. Marie, all being in the Marquette, Mich., land district.

Action of President of February 13, 1895, transferring the military reservation of Fort Stevenson, N. Dak., to Interior Department.

Action of President of February 16, 1895, transferring the military reservation of Fort Lewis, Colo., to Interior Department.

Action of President of February 18, 1895, reserving and setting apart for exclusive use of the military prison certain lands of the Fort Leavenworth, Kans., reservation.

General Orders, No. 38 of 1895 publishes act of March 1, 1895, for transfer of Mount Vernon Barracks to State of Alabama.

General Orders, No. 40 of 1895 publishes President's order of April 1, 1895, transferring the military reservation of Fort Townsend, Wash., to Interior Department.

Also President's order of June 15, 1895, transferring the military reservation of Fort Marcy, N. Mex., to the Interior Department.

Custodians are employed and paid by the Quartermaster's Department in caring for the following reservations: Old Fort Bliss, Tex., A. G. Mallory, \$60 per month; Fort Marcy, N. Mex., J. L. Johnson, \$60 per month.

At Monterey, Cal., Francis Doud has been custodian for several years without pay.

Statements A and B are appended.

Very respectfully,

C. P. MILLER,

Captain and Assistant Quartermaster, United States Army.

The QUARTERMASTER-GENERAL UNITED STATES ARMY,
Washington, D. C.

A.—List of military reservations turned over by the War Department to the Interior Department, or otherwise disposed of by the War Department, from 1858 to June 30, 1895, with date of relinquishment, authority therefor, etc.

Name of post.	Date of relinquishment.	Authority for relinquishment.	Remarks.
Abercrombie, Fort, Dak	Mar. 25, 1871	Act Feb. 24, 1871	Portion east of the Red River of the North. G. O. 19, A. G. O., 1871.
Do.....	July 14, 1880	Act June 10, 1880.....	Reservation abolished. G. O. 55, A. G. O., 1880.
Do.....	.....	Act July 15, 1882.....	Reservation abolished. G. O. 85, A. G. O., 1882.
Abraham Lincoln, Fort, N. Dak.	Oct. 15, 1891	Act July 5, 1884.....	15,040 acres, also Sibleys Island, containing 13,696 acres. G. O. 84, A. G. O., 1891.
Arbuckle, Fort, Ind. T.....	July 9, 1870	Indian treaty of Apr. 28, 1866.	
Assinniboine, Fort, Mont....	Oct. 22, 1891	Act July 5, 1884.....	Hay reservation, coal reservation, and part of post reservation. Area not stated. G. O. 85, A. G. O., 1891.
Atkinson, Fort, Iowa .....	.....	Act June 7, 1860	12 Stat., 28.
Austin, Tex .....	.....	Act Mar. 5, 1888.....	Arsenal block. For educational purposes only. G. O. 30, A. G. O., 1888.
Baton Rouge Barracks, La..	Aug. 22, 1884	Act July 5, 1884.....	44.17 acres. G. O. 102, A. G. O., 1884.
Do .....	.....	Act June 12, 1886.....	By Secretary Interior to State University. G. O. 55, A. G. O., 1886.
Bennett, Fort, S. Dak .....	.....	Order of Secretary of War of Oct. 3, 1891, G. O. 79, A. G. O., 1891.	On Indian reservation. No formal reservation.

A.—List of military reservations turned over by the War Department to the Interior Department, etc.—Continued.

Name of post	Date of relinquishment	Authority for relinquishment.	Remarks.
Newton, Fort, Mont	Jan. 5, 1883	Act Aug 4, 1882	G. O. 110, A. G. O., 1882.
Ridwell, Fort, Cal	Feb. 13, 1885	Act July 5, 1884	Portion 125.28 acres. G. O. 14, A. G. O., 1885.
Do	Nov. 10, 1880	do	Remainder, 3,000 acres. G. O. 125, A. G. O., 1890.
San Blas Island	July 22, 1884	do	3,199.43 acres. G. O. 80, A. G. O., 1884.
Boise, Fort, Idaho	Sept. 19, 1874	do	Wood and sawmill reservation. Not formally reserved.
Do	Apr. 19, 1884	Act Feb. 14, 1883. Sec. 9, 10 Stat., 159.	Hay reservation in excess of 600 acres.
Howie, Fort, Ariz	Nov. 14, 1894	Act July 5, 1884.	23,040 acres. G. O. 83, 1894.
Bragg, Fort, Cal	do	Act July 27, 1888.	On Mendocino Indian Reservation. G. O. 74, A. G. O., 1878.
Brady, Fort, Mich.	Jan. 21, 1878	Act Mar. 1, 1880.	Not to exceed 1 acre to Baptist Missionary Society. G. O. 25, A. G. O., 1880.
Do	do	Act Mar. 3, 1875.	Grants 1.26 acres for school purposes. G. O. 41, A. G. O., 1875.
Do	Dec. 3, 1894	Act July 5, 1884.	The lands embraced in fractional sec. 2, T. 47 N., R. 1 W., Michigan meridian, which was reserved from sale for the use of Fort Brady Mich., by Executive order of Sept. 2, 1847, 24 acres. G. O. 19, 1895.
Bridger, Fort, Wyo.	Mar. 25, 1871	Act Feb. 24, 1871.	Portion 496 square miles. G. O. 19, A. G. O., 1871.
Do	Feb. 15, 1872	do	Modifies G. O. 19, A. G. O., 1871.
Do	July 22, 1884	Act July 5, 1884.	Coal reservation, 99.17 acres. G. O. 80, A. G. O., 1884.
Do	Oct. 14, 1890	do	10,240 acres. G. O. 123, A. G. O., 1890.
Brooke, Fort, Fla.	Jun. 4, 1893	Act Aug. 18, 1886.	143.11 acres. 11 Stat., p. 87.
Burford, Fort, N. Dak.	July 30, 1891	Act July 5, 1884.	Portion. Area not stated. G. O. 68, A. G. O., 1891.
Butler, Fort, N. Mex.	July 22, 1884	do	76,800 acres. G. O. 80, A. G. O., 1884.
Cady, Camp, Cal.	do	do	1,562 acres. G. O. 80, A. G. O., 1884.
Cameron, Fort, Utah	July 2, 1885	do	23,378 acres. War Dept. circular, July 9, 1885.
Cantonment, Ind. T.	Sept. 7, 1882	Act July 31, 1882.	For Indian schools.
Carlitz (near), Nev.	Mar. 20, 1888	Act July 5, 1884.	420 acres. War Dept. circular, Mar. 26, 1888.
Carlisle Barracks, Pa.	Dec. 22, 1879	Order of Secretary of War, Aug. 22, 1879.	About 30 acres. For Indian school purposes until required for military purposes.
Cascades, Fort, Wash.	Feb. 2, 1887	do	Private claim.
Churchill, Fort Nev.	June 15, 1871	do	No formal reservation.
Collins, Fort, Dak.	July 16, 1872	Act May 15, 1872.	G. O. 35, A. G. O., 1872.
Colville, Fort, Wash.	Feb. 26, 1887	Act July 5, 1884.	1,070 acres. War Dept. circular, Mar. 1, 1887.
Covington, Fort, Md.	Jan. —, 1889	Act June 25, 1888.	G. O. 39, A. G. O., 1888.
Cœur d'Alene, Fort, Idaho	Apr. 27, 1886	Act July 5, 1884.	Winter pasturage, 640 acres. War Dept. circular, May 3, 1886.
Council Grove, Okla.	Jan. 19, 1895	do	Military timber reserve for Fort Reno, Okla., 5,760 acres. G. O. 19, 1895.
Craig, Fort, N. Mex.	Mar. 3, 1885	do	24,805 acres. G. O. 21, A. G. O., 1885.
Crawford, Fort, Iowa	do	Act July 1, 1884.	do
Crawford, Fort, Colo.	July 22, 1884	Act July 5, 1884.	Portion. G. O. 80, A. G. O., 1884.
Do	Dec. 30, 1890	do	Remainder, 5,472 acres. G. O. 148, A. G. O., 1890.
Crawford, Fort, Wis.	do	Act Mar. 3, 1882.	do
Crittenden, Fort, Utah	July 22, 1884	Act July 5, 1884.	94,550 acres. G. O. 80, A. G. O., 1884.
Crittenden, Camp, Ariz.	do	do	3,278.06 acres. G. O. 80, A. G. O., 1884.
Crook, Fort, Cal	do	Act Feb. 15, 1881.	Act restores to public domain. G. O. 25, A. G. O., 1881.
Cummings, Fort, N. Mex.	Oct. 20, 1891	Act July 5, 1884.	23,040 acres. G. O. 85, A. G. O., 1891.
D. A. Russell, Fort, Wyo.	do	Act, Mar. 2, 1895.	160 acres, State of Wyo. G. O. 13, 1895.
Dakota, Fort, Dak.	do	Act July 14, 1870.	do
Dallas, Fort, Oreg.	Mar. 28, 1877	Act Mar. 3, 1877.	G. O. 24, 1877.
Date Creek, Camp, Oreg.	Dec. 7, 1874	Act June 22, 1874.	G. O. 88, A. G. O., 1874.
Dodge, Fort, Kans.	Jan. 12, 1885	Act July 5, 1884.	12,000 acres. G. O. 8, A. G. O., 1885.

A.—List of military reservations turned over by the War Department to the Interior Department, etc.—Continued.

Name of post.	Date of relinquishment.	Authority for relinquishment.	Remarks.
Douglas, Fort, Utah.....	.....	Act May 16, 1874.....	Not to exceed 20 acres for a public cemetery. G. O. 47, A. G. O., 1874.
Do	Apr. 17, 1885	Act Jan. 21, 1885 (23 Stat., 284).	Portion (151.81 acres) private claim. G. O. 35, A. G. O., 1885.
Drum Barracks, Cal.....	.....	Act Feb. 25, 1873.....	To be reconveyed to Banning and Wilson.
Ellis, Fort, Mont	July 26, 1886	Act July 5, 1884.....	32, 116.10 acres. War Dept. circular, July 29, 1886.
Elliott, Fort, Tex.....	Oct. 14, 1890	.....do	2,560 acres. G. O. 123, A. G. O., 1890.
El Paso, Tex.....	Apr. 6, 1894	Act Mar. 3, 1895	Old cemetery site, 153,400 square feet. Transferred to city of El Paso for park or other public purposes.
Fayette, Fort, Pa .....	.....	Act May 21, 1890.....	Public, No. 125. See Pittsburg.
Fetterman, Fort, Wyo.....	July 22, 1884	Act July 5, 1884.....	45,085.56 acres. G. O. 80, A. G. O., 1884.
Fred Steele, Fort, Wyo.....	Aug. 9, 1886	.....do	24,833.29 acres. Except cemetery site. War Department circular, Aug. 12, 1886.
Galveston, Tex .....	.....	Act July 15, 1870.....	Lands donated to city. G. O. 100, A. G. O., 1870.
Gaston, Fort, Cal	Feb. 11, 1892	Act July 31, 1882 (22 Stat., 181).	451.5 acres. No general order. Letter of Secretary of War of Feb. 11, 1892. See G. O. 14, A. G. O., 1892.
Gibson, Fort, Ind. T.....	Feb. 7, 1891	Act July 5, 1884.....	5,541 acres. National cemetery excepted. G. O. 15, A. G. O., 1891.
Goodwin, Camp, Ariz.....	July 22, 1884	.....do	5,760 acres. G. O. 80, A. G. O., 1884.
Grant (old), Camp, Ariz .....	.....do .....	.....do	2,031.70 acres. G. O. 80, A. G. O., 1884.
Green, Fort, R. I .....	.....	Act Feb. 23, 1887.....	To city of Newport as a public park. G. O. 25, A. G. O., 1887.
Gratiot, Fort, Mich.....	Nov. 9, 1880	Act July 20, 1868.....	Portion. G. O. 60, A. G. O., 1868.
Do.....	.....	Act Mar. 18, 1870.	20.9 acres. G. O. 49, A. G. O. 1870.
Do.....	.....	Amends act July 20, 1868.	
Do.....	.....	Act Mar. 3, 1873.....	Cemetery grounds. G. O. 45, A. G. O., 1873.
Do.....	.....	Act June 16, 1880.....	Remainder. G. O. 55, A. G. O., 1880.
Greenwood Island, Miss.....	Dec. 26, 1890	Act July 5, 1884.....	100 acres. G. O. 147, A. G. O., 1890.
Hall, Fort, Idaho.....	Apr. 26, 1883	Act July 31, 1882.....	For Indian schools.
Halleck, Fort, Nev	Oct. 11, 1886	Act July 5, 1884.....	10,900.93 acres. War Department circular, Oct. 28, 1886.
Hamer, Fort, Fla.....	Feb. 26, 1876	Act Aug. 18, 1856.....	Sale authorized.
Hancock Barracks, Me .....	.....	Act Mar. 14, 1872.....	G. O. 55, A. G. O., 1880.
Harker, Fort, Kans	July 12, 1880	Act June 15, 1880	3,251.41 acres. G. O. 80, A. G. O., 1884.
Hartsuff, Fort, Nebr	July 22, 1884	Act July 5, 1884.....	Portion, not to exceed 165 acres. G. O. 53, A. G. O., 1884.
Hays, Fort, Kans.....	May 13, 1886	Act June 11, 1884	Remainder, 7,600 acres. G. O. 81, A. G. O., 1889.
Do.....	Nov. 2, 1889	Act July 5, 1884.....	No formal reservation.
Hoskins, Fort, Oreg.....	Feb. 16, 1891	.....	All of square or block 94. G. O. 96, A. G. O., 1890.
Hot Springs, Ark.....	Aug. 27, 1890	Act July 5, 1884.....	Donated to Fisk University for educational purposes. G. O. 86, A. G. O., 1874.
Houston, Fort, Tex.....	.....	Act June 23, 1874.....	Portion.
Howard, Fort, Wis.....	.....	Act Mar. 3, 1863	Remainder.
Do.....	.....	Act July 4, 1866.....	No formal reservation.
Hualpai, Fort, Ariz.....	Apr. 22, 1874	.....	Do.
Humboldt, Fort, Cal	Apr. 6, 1870	.....	5,210.38 acres. G. O. 80, A. G. O., 1884.
Independence, Camp, Cal	July 22, 1884	Act July 5, 1884.....	G. O. 19, A. G. O., 1871.
Jesup, Fort, La	Mar. 25, 1871	Act Feb. 24, 1871	No formal reservation.
Jones, Fort, Cal	May 27, 1870	.....	9,088.38 acres. Except light-house lot.
Jupiter, Fort, Fla	Mar. 16, 1880	Act Aug. 18, 1856 (11 Stat., 87).	
Kearney, Fort (old), Iowa.....	.....	Act Apr. 15, 1874	G. O. 111, A. G. O., 1876.
Kearney, Fort, Nebr	Dec. 2, 1876	Act July 21, 1876.....	Portion east of Tongue River.
Keogh, Fort, Mont .....	.....	Act July 30, 1890 (Public, 218).	
Key Biscaine, Fla.....	July 9, 1870	Act Aug. 18, 1856	
Klamath, Fort, Oreg	May 4, 1886	Act July 5, 1884	3,335.68 acres. War Department circular, May 6, 1886.

A.—List of military reservations turned over by the War Department to the Interior Department, etc.—Continued.

Name of post.	Date of relinquishment.	Authority for relinquishment.	Remarks.
Lane, Fort, Oreg	Mar. 25, 1871	Act Feb. 24, 1871	G. O. 19, A. G. O., 1871.
Lapwai, Fort, Idaho	June 5, 1882	Act July 31, 1882	Post reserve for Indian schools.
Do	May 7, 1884	Act Feb. 14, 1853 (10 Stat., 159).	Hay reservation in excess of 640 acres.
Laramie, Fort, Wyo.		Act Aug. 14, 1876	Restores a portion to public domain. G. O. 90, A. G. O., 1876.
Do	June 9, 1890	Act July 5, 1884	G. O. 60, A. G. O., 1890.
Larned, Fort, Kans.	Mar. 26, 1883	Act Aug. 4, 1882	G. O. 110, A. G. O., 1882.
Leavenworth, Fort, Kans.	Dec. 23, 1868	Act July 2, 1868	Sale of 20 acres in southeast corner to Leavenworth Coal Co.
Do		Act Feb. 9, 1871	Sale of 128.82 to Kansas Agricultural and Mechanical Association. G. O. 14, A. G. O., 1871.
Do		Act Mar. 2, 1889	Lease of 9.75 acres to Leavenworth Water Co. while lands are used as a military site. G. O. 39, A. G. O., 1889.
Leavenworth Prison, Kans. .	Mar. 2, 1895	Act Mar. 2, 1895	Buildings and grounds transferred to Department of Justice. For reservation limits see G. O. 19, 1895.
Lewis, Fort, Colo.	Nov. 12, 1891	Act July 31, 1882 (22 Stat., 181).	30,336 acres. G. O. 89, A. G. O., 1891.
Do	Feb. 16, 1895	Act July 5, 1894	G. O. 19, 1895.
Little Rock Barracks, Ark. .	Oct. 14, 1890	Act July 5, 1884	36.01 acres. G. O. 123, A. G. O., 1890. Act Apr. 23, 1892, transfers to city of Little Rock.
Logan, Fort, Mont.	June 4, 1881	Act May 8, 1880	Sale at auction. G. O. 38, A. G. O., 1880.
Louisiana, State of *	Sept. 23, 1886	Act July 5, 1880	6,170.79 acres. War Department circular, Sept. 28, 1886.
Lowell, Fort, Ariz.	Mar. 5, 1891	Act July 5, 1884	Area not stated. G. O. 24, A. G. O., 1891.
Lyon, Fort (old), Colo.	July 22, 1884	.....do	38,000 acres. G. O. 80, A. G. O. 1884.
Lyon, Fort, Colo.	Dec. 2, 1889	.....do	5,874 acres. G. O. 9, A. G. O., 1890.
Mackinac, Fort, Mich.		Act Mar. 1, 1879	Portion to Wendell, Van Allen & Bailey. G. O. 19, 1879.
Mackinac, Fort, Mich., and National Park.		Act Mar. 2, 1895	Reservation 103.41 acres. Park 821 acres; transferred State of Michigan. G. O. 13, 1895.
Marcy, Fort, N. Mex.	June 28, 1895	Act July 5, 1884	17 acres, 3,425 square yards, 2,656 square feet. G. O. 40, 1895.
McDermitt, Fort, Nev.	Dec. 1, 1886	.....do	Hay reservation, 6,400 acres. War Department circular, Dec. 3, 1886.
Do	July 24, 1889	.....do	Post reserve, 3,974.40 acres. G. O. 67, A. G. O., 1889.
McGarry, Camp, Nev.	Mar. 25, 1871	Act Feb. 24, 1871	G. O. 19, A. G. O., 1871.
McDowell, Fort, Ariz.	Oct. 1, 1890	Act July 31, 1882 (22 Stat., 181).	Post, buildings, etc., for Indian school purposes until required for military purposes. G. O. 115, A. G. O., 1890.
Do	Mar. 2, 1891	Act July 5, 1884	Containing 25,628 acres. G. O. 22, A. G. O., 1891.
McHenry, Fort, Md.		Act June 19, 1878	Site for a dry dock to Baltimore Dry Dock Co. G. O. 44, A. G. O., 1878.
McKinney, Fort, Wyo.	Jan. 16, 1889	Act July 5, 1884	Portion, estimated, 640 acres. G. O. 5, A. G. O., 1889.
Do	Nov. 14, 1894	.....do	Military reserve, 24,960 acres. G. O. 63, 1894.
McKinney Depot, Wyo.	Dec. 7, 1894	.....do	Camp and grazing reserve, 640 acres. G. O. 19, 1895.
McPherson, Fort, Nebr.	Jan. 5, 1887	.....do	19,500 acres. All except national cemetery tract. War Department circular, Jan. 10, 1887.
McRae, Fort, N. Mex.	July 22, 1884	.....do	2,560 acres. G. O. 80, A. G. O., 1884.
Mackinac, Fort, Mich.		Act Mar. 1, 1879	Portion to Messrs. Wendell, Van Allen & Bailey. G. O. 19, A. G. O., 1879.
Maginnis, Fort, Mont.	Aug. 14, 1890	Act July 5, 1884	31,059.21 acres. G. O. 91, A. G. O., 1890.
Mason, Fort (Point San Jose), Cal.		Act July 1, 1870	Portion to the city and county of San Francisco, Cal. G. O. 87, A. G. O., 1870.

* Ten reservations on the Gulf coast, as follows: One near the eastern mouth of Bayou Lafourche one near western mouth of Bayou Lafourche; one on Bayou Plat; one near western entrance to Caminada Bay; one near the pass at the eastern end of Grand Terre Island; one near the mouth of Quatre Bayou Pass; one at Bastian Bay; three near Bastian Bay.

A.—List of military reservations turned over by the War Department to the Interior Department, etc.—Continued.

Name of post.	Date of relinquishment.	Authority for relinquishment.	Remarks.
Missouri River, island in, Mo.	July 22, 1884	Act July 5, 1884.....	G. O. 80, A. G. O., 1884.
Mojave, Fort, Ariz	Sept. 29, 1890	Act July 31, 1882 (22 Stat., 181).	14,697 acres. Indian school purposes until required for military occupation. G. O. 111, A. G. O., 1890.
Mount Vernon Barracks, Ala.	Mar. 2, 1893	Letter of Secretary of War of Mar. 2, 1893.	All that portion south of Cedar Creek.
Do	Apr. 10, 1895	Act Mar. 1, 1895	To State of Alabama for public purposes. G. O. 38, 1895.
Narrows of Puget Sound, Wash.	Nov. 14, 1894	Act July 5, 1884.....	582.1 acres on west side of Narrows at south side of entrance of Gig Harbor. G. O. 63, 1894.
Do	do	do	637.4 acres on west side of Narrows. G. O. 63, 1894.
Do	do	do	635 acres on west side of Narrows south of Point Evans. G. O. 63, 1894.
Do	do	do	559.33 acres on north side of Gig Harbor. G. O. 63, 1894.
Newport Barracks, Ky.....	Jan. 1, 1895	Act July 31, 1895.....	To city of Newport for park purposes.
Oglethorpe Barracks, Ga....	Apr. 7, 1884	Act Apr. 7, 1882.....	G. O. 46, A. G. O., 1882.
Oklahoma, Okla	Oct. 4, 1892	Act July 5, 1884.....	160 acres. G. O. 69, A. G. O., 1892.
Pagosa Springs (old Fort Lewis, Colo.)	July 22, 1884	do	21,898.08 acres. G. O. 80, A. G. O., 1884.
Pikes Peak, Colo.....	Jan. 16, 1889	do	8,192 acres. G. O. No. 5 of 1889.
Pittsburg, Pa.....	Nov. 8, 1894	Act of May 21, 1890...	Certain land corner Penn ave. and Garrison alley; sold to Charles McKnight.
Plattsburg Barracks, N. Y...		Act June 8, 1872.....	25 acres to the New York and Canada R. R. Co. G. O. 66, A. G. O., 1872.
Do		Act June 30, 1879.....	2 acres, etc., to R. R. Co. G. O. 70, A. G. O., 1879.
Point Roberts, Wash.....	Sept. 23, 1890	Act July 5, 1884.....	1,472 acres. G. O. 107, A. G. O., 1890.
Presidio of San Francisco, Cal.		Act May 9, 1876.....	Portion to city of San Francisco. G. O. 44, A. G. O., 1876.
Randall, Fort, Dak.....		Act May 18, 1874.....	Portion. G. O. 47, A. G. O., 1874.
Do	July 22, 1884	Act July 5, 1884.....	Portion (24,503.53 acres north of Missouri River) not already transferred under act of May 18, 1874. G. O. 80, A. G. O., 1884.
Do		Act Oct. 1, 1890 (Public, 343).	Portion open to settlers.
Fort Randall.....	Oct. 20, 1893	Act July 5, 1884.....	Remainder, 92,160 acres, G. O. 84, 1893.
Ransom, Fort, N. Dak.....	July 14, 1880	Act June 10, 1880.....	G. O. 55, A. G. O., 1880.
Reading, Fort, Cal.....		Act Feb. 15, 1881.....	Restored to public domain. G. O. 25, A. G. O., 1881.
Reno, Fort, Okla.....			See Council Grove.
Reynolds, Fort, Colo.....	July 18, 1874	Act June 19, 1874.....	G. O. 88, A. G. O., 1874.
Rice, Fort, S. Dak.....	July 22, 1884	Act July 5, 1884.....	Estimated at 102,400 acres. G. O. 80, A. G. O., 1884.
Ridgely, Fort, Minn.....		Act July 1, 1870.....	G. O. 87, A. G. O., 1870.
Riley, Fort, Kans.....		Joint resolution of Mar. 2, 1867.	Reduces area, etc. G. O. 29, A. G. O., 1867.
Ripley, Fort, Minn		Act Feb. 28, 1873	Portion. G. O. 28, A. G. O., 1873.
Do	July 2, 1880	Act Apr. 1, 1880	Restored to public domain. G. O. 22, A. G. O., 1880.
Rush Lake Valley, Utah.....	July 22, 1884	Act July 5, 1884	5,131.47 acres. G. O. 80, A. G. O. 1884.
Sabine, Fort, La.....	Mar. 25, 1871	Act Feb. 24, 1871	G. O. 19, A. G. O., 1871.
St. Augustine, Fla	Oct. 15, 1883	Act Aug. 18, 1856 (11 Stat., 88).	0.1619 and 0.12786 acre. Hospital lot and blacksmith's shop lot.
Do	Mar. 18, 1886	Act July 5, 1884	Old powder-house lot or governor's garden lot, 10.29 acres.
Do	Nov. 18, 1886	do	Dragoon barracks lot, 1.15 acres. War Department circular, Nov. 20, 1886.
St. Marks, Fla.....	Oct. 27, 1892	Act July 5, 1884	50 acres. G. O. 74, A. G. O., 1892.
Sanders, Fort, Wyo.....		Act June 9, 1874.....	Reduces area. G. O. 60, A. G. O., 1874.
Do	Aug. 22, 1884	Act July 5, 1884	19,342 acres. G. O. 102, A. G. O., 1884.
Sedgwick, Fort, Colo. and Nebr.	July 22, 1884	do	40,960 acres. G. O. 80, 1884.
Selden, Fort, N. Mex.....	Apr. 9, 1890	Act July 31, 1882 (22 Stat., 181).	G. O. 44, A. G. O., 1890.
Do	Mar. 30, 1892	Act July 5, 1884	9,613.7381 acres. G. O. 26, A. G. O., 1892.
Seward, Fort, Dak.....	July 14, 1880	Act June 10, 1880.....	G. O. 55, A. G. O., 1880.

A.—List of military reservations turned over by the War Department to the Interior Department, etc.—Continued.

Name of post.	Date of relinquishment.	Authority for relinquishment.	Remarks.
Shaw, Fort, Mont.....	Apr. 30, 1892	Act July 31, 1882 (22 Stat., 181).	29,843 acres. G. O. 30, A. G. O., 1892.
Sheridan, Camp, Nebr.....	July 22, 1884	Act July 5, 1884.....	18,225 acres. G. O. 80, A. G. O., 1884.
Sidney, Ford, Nebr.....	Nov. 14, 1894	Act July 5, 1894.....	620 acres military reserve: 20 acres on NE. corner donated by act of June 10, 1892, to city of Sidney, Nebr., for cemetery purposes. G. O. 63, 1894. 3,195 acres wood and timber reserve. G. O. 63, 1894.
Smith, Fort, Ark.....	Mar. 21, 1871	Act Feb. 24, 1871.....	G. O. 19, A. G. O., 1871.
Sisseton, Fort, Dak.....	Apr. 22, 1889	Act July 5, 1884.....	81,920 acres. War Department circular, May 1, 1889
Snelling, Fort, Minn.....	Dec. 23, 1873	Act May 7, 1870.....	Reduced to 1,531.21 acres. G. O. 66, A. G. O., 1870.
Soldiers, Key, Fla.....	July 9, 1870	Act Aug. 18, 1856.....	No formal reservation.
Stambaugh, Camp, Wyo.....	May 3, 1881	.....	Reduces reservation. G. O. 35, A. G. O., 1872.
Stanton, Fort, N. Mex.....	Aug. 7, 1872	Act May 21, 1872.....	Donates portion to Washington for use of insane asylum. G. O. 32, A. G. O., 1874.
Steilacoom, Fort, Wash.....	.....	Act Apr. 15, 1874.....	289 acres. G. O. 80, A. G. O., 1884.
Do.....	July 22, 1884	Act July 5, 1884.....	G. O. 19, 1895.
Stevenson, Fort, Dak.....	Feb. 13, 1895	.....do.....	12.5 acres. G. O. 80, A. G. O., 1884.
Sullivan, Fort, Me.....	July 22, 1884	.....do.....	Except national cemetery. G. O. 19, A. G. O., 1871.
Sumner, Fort, N. Mex.....	Mar. 25, 1871	Act Feb. 24, 1871.....	Coal reservation. G. O. 80, A. G. O., 1884.
Sulphur Creek, Wyo.....	July 22, 1884	Act July 5, 1884.....	25,984 acres. G. O. 63, 1894.
Sully, Fort, S. Dak.....	Nov. 14, 1894	.....do.....	40,320 acres. G. O. 63, 1894.
Supply, Fort, Okla.....	.....do.....	.....do.....	21,851 acres. G. O. 80, A. G. O., 1884.
Thornburg, Fort, Utah.....	Nov. 14, 1884	.....do.....	10,487 acres. G. O. 81, A. G. O., 1892.
Thomas, Fort, Ariz.....	Dec. 2, 1892	.....do.....	4,800 acres. G. O. 80, A. G. O., 1884.
Three Forks, Owyhee, Camp, Idaho.	July 22, 1884	.....do.....	Post, buildings, etc., for Indian school purposes until required for military purposes. G. O. 115, A. G. O., 1890.
Totten, Fort, Dak.....	Oct. 1, 1890	Act July 31, 1882 (22 Stat., 181).	615.10 acres. G. O. 40, 1895.
Townsend, Fort, Wash.....	June 28, 1895	Act July 5, 1884.....	Private property. Buildings and grounds totally abandoned by U. S.
Union, Fort, N. Mex.....	Apr. 1, 1894	Sec. of War, Feb. 16, 1894.	Portion 4,000 acres. G. O. 80, A. G. O., 1884.
Uncompahgre, Cantonment, on Colorado.	July 22, 1884	Act July 5, 1884.....	Garden tract, 3,000 acres. G. O. 80, A. G. O., 1884.
Verde, Fort, Ariz.....	.....do.....	.....do.....	9,293.79 acres. G. O. 123, A. G. O., 1890.
Do.....	Oct. 14, 1890	.....do.....	8,926.09 acres. G. O. 80, A. G. O., 1884.
Wallace, Fort, Kans.....	July 22, 1884	.....do.....	Portion of hay reserve. G. O. 35, A. G. O., 1872.
Walla Walla, Fort, Wash....	Oct. 26, 1875	Act Apr. 29, 1872.....	Timber reserve. G. O. 66, A. G. O., 1872.
Do.....	.....do.....	Act June 8, 1872.....	Remainder of hay reserve.
Do.....	May 3, 1880	.....do.....	Portion of post reservation.
Do.....	.....do.....	.....do.....	No formal reservation.
Wallen, Camp, Ariz.....	Apr. 22, 1874	.....	Do.
Washita, Fort, Ind. T.....	July 1, 1870	.....	G. O. 19, A. G. O., 1871.
Waterford, Pa.....	.....	Act Mar. 4, 1868.....	Portion. G. O. 88, A. G. O., 1874.
Wayne, Fort, Ark.....	Mar. 26, 1871	Act Feb. 24, 1871.....	Timber reserve, 720 acres. G. O. 80, A. G. O., 1884.
Whipple Barracks, Ariz.....	Oct. 21, 1875	Act June 22, 1874.....	40,960 acres. G. O. 80, A. G. O., 1884.
Do.....	July 22, 1884	Act July 5, 1884.....	148.35 acres. G. O. 80, A. G. O., 1884.
White River, Camp, on Colorado.	.....do.....	.....do.....	No formal reservation.
Wilkins, Fort, Mich.....	.....do.....	.....do.....	To be reconveyed to Banning and Wilson. G. O. 45, A. G. O., 1875.
Willow Grove, Camp, Ariz....	Apr. 22, 1874	Act Feb. 25, 1873.....	Portion. G. O. 88, A. G. O., 1874.
Wilmington Depot, Cal.....	.....	.....	Indian school purposes.
Yuma, Fort, Ariz.....	Dec. 7, 1874	Act June 22, 1874.....	Inoperative. G. O. 80, A. G. O., 1884.
Yuma, Fort, Ariz. and Cal....	Jan. 9, 1884	.....	G. O. 19, A. G. O., 1871.
Do.....	July 22, 1884	Act July 5, 1884.....	
Zarah, Fort, Kans.....	Mar. 25, 1871	Act Feb. 24, 1871.....	

B.—Military reservations, showing location, size, how occupied, etc., on June 30, 1895.

Adams, Fort, R. I.—Latitude, $41^{\circ} 28'$; longitude, $71^{\circ} 22'$. On Brentons Point, 3 miles from Newport, which is the post-office, railroad, and telegraph station, and from which the post is reached by boat or road. Contains $138\frac{1}{4}$ acres. Jurisdiction ceded to United States. Accommodations for 16 officers in cottages and 7 in casemates, 1 light battery, and 3 batteries of artillery. Water supply from Newport City waterworks. Sewer system.

Alcatraz Island, Cal.—Latitude, $37^{\circ} 49'$; longitude, $122^{\circ} 27'$. In San Francisco Bay, 4 miles northeast from city. Post-office at post. Railroad and telegraph station, San Francisco. Government steamer to post daily, except Sunday. Reservation, the whole island, about 12 acres. Jurisdiction ceded to United States. Accommodations for 10 officers and 2 companies artillery. Salt water pumped from the bay by steam power. Fresh water brought from San Francisco on steamer and stored in cisterns. Sewer system.

Angel Island, Cal.—Latitude, $37^{\circ} 48'$; longitude, $122^{\circ} 28'$. In San Francisco Bay, 7 miles northeast from the city. Post-office and telegraph station at post. Railroad station, San Francisco. Government steamer to post daily, except Sunday. Reservation, the entire island, about 640 acres. Jurisdiction ceded to United States. Accommodations for 13 officers, 5 companies infantry, and band. Water supply from springs conducted by gravity to 4 reservoirs of total capacity 235,000 gallons, thence distributed to all parts of post. Sewer system.

Anastasia Island, Fla.—Latitude, $29^{\circ} 52'$; longitude, $81^{\circ} 16'$. About $1\frac{1}{4}$ miles from St. Augustine. Reservation of about 700 acres declared by Executive, August 21, 1893 (G. O. 68 of 1893, A. G. O.). Jurisdiction ceded to United States.

Apache, Fort, Ariz.—Latitude, $33^{\circ} 47'$; longitude, $109^{\circ} 57'$. On White Mountain River, Apache County, 339 miles from Prescott and 90 miles from Holbrook, on Atlantic and Pacific Railroad. Post-office and telegraph station at post. Buckboard daily, except Sunday, from Holbrook. Reservation, 7,421 acres. Accommodations for 15 officers, 5 troops cavalry, and 2 companies infantry. Water supply brought through an acequia by gravity from 3 miles up White River, then pumped into reservoir (80,000 gallons); pipe distribution; well near sawmill. No sewer system.

Assinniboine, Fort, Mont.—Latitude, $48^{\circ} 30'$; longitude, $109^{\circ} 45'$. On Beaver-Creek, $1\frac{1}{4}$ miles from station of same name on Great Northern Railroad, 209 miles from Helena and 966 miles from St. Paul. Post-office at post. Telegraph and railroad station, Assinniboine, Mont. Reservation, about 186,000 acres. Jurisdiction ceded to United States. Accommodations for 35 officers, 4 troops cavalry, and 6 companies infantry. Water supply from Beaver Creek, forced by steam power into distributing tank of 60,000 gallons capacity. No sewer system; natural drainage.

Barrancas, Fort, Fla.—Latitude, $30^{\circ} 19'$; longitude, $87^{\circ} 16'$. On north side of Pensacola Harbor, 9 miles southwest of Pensacola, 1 mile from Fort Pickens. Post-office, Warrington, Fla.; telegraph station, Pensacola Navy-Yard; railroad station at Pensacola; special boat to post; electric railroad from Pensacola to post. Reservation contains about 2,500 acres, the boundaries of which were modified by G. O. 18, A. G. O., 1892. Jurisdiction ceded to United States. Accommodations for 11 officers and 2 batteries of artillery. Water supply pumped from wells into tank of 35,250 gallons capacity and distributed by gravity. Sewer system.

Bayard, Fort, N. Mex.—Latitude, $32^{\circ} 48'$; longitude, $108^{\circ} 9'$. Two miles from Halls, N. Mex., on Silver City and Northern Railroad. Station on main line of Atchison, Topeka and Santa Fe Railroad is Deming, N. Mex. Post-office and telegraph station at post. Reservation, 13 square miles and 520 acres. Accommodations for 20 officers, 2 troops cavalry, 4 companies infantry, and band. Water supply pumped from two wells to reservoir of 50,000 gallons capacity, thence distributed by gravity. Sewer system.

Benicia Barracks, Cal.—Latitude, $38^{\circ} 2'$; longitude, $122^{\circ} 7'$. Post-office, telegraph, railroad station, and boat landing, Benicia; distant, 1 mile. Reservation, 98.78 acres. Jurisdiction ceded to United States. Accommodations for 9 officers and 3 companies infantry. Water supply from Benicia Water Company and well at post. Sewer system.

Bliss (old), Fort, Tex.—Latitude, $31^{\circ} 44'$; longitude, $106^{\circ} 29'$. On Rio Grande, $1\frac{1}{4}$ miles above El Paso, on Atchison, Topeka and Santa Fe and Southern Pacific railroads. Post-office, telegraph, and railroad station, El Paso, Tex. Reservation, 134.85 acres. Accommodations for 7 officers; 2 barracks. Water supply from El Paso City waterworks. Sewer system. Under act of March 1, 1890 (G. O. 25, 1890), the buildings and grounds were advertised to be sold March 5, 1894; but the sale was postponed. Readvertised July 1, 1895. Troops withdrawn May 31, 1894. Custodian in charge.

Bliss (new), Fort, Tex.—Latitude, $31^{\circ} 48'$; longitude, $106^{\circ} 29'$. On Kansas City, El Paso and Mexican Railroad, about 5 miles northeast of the city of El Paso. Post-

office, telegraph, and railroad station, El Paso, Tex. Reservation, 1,265.7 acres. Title acquired under act of March 1, 1890. Jurisdiction ceded to the United States. Accommodations for 14 officers and 4 companies infantry. Complete water system; supply from artesian wells. Sewer system.

Boise Barracks, Idaho.—Latitude, $43^{\circ} 32'$; longitude, $116^{\circ} 10'$. On Boise River, 2 miles from Boise, 36 miles from Idaho City, and 511 miles from Vancouver Barracks, Wash. Post-office, telegraph, and railroad station, Boise. Reservation, 640 acres. Jurisdiction ceded to the United States. Accommodations for 7 officers, 1 troop cavalry, 1 company infantry. Water supply from springs, thence to reservoir of 54,000 gallons capacity, and distributed by gravity; also from new waterworks (gravity) constructed by Peter Sonna. Sewer system.

Brady (old), Fort, Mich.—Latitude, $46^{\circ} 30'$; longitude, $84^{\circ} 20'$. Within the limits of city of Sault Ste. Marie, on right bank of St. Marys River. Post-office, telegraph, and railroad station, Sault Ste. Marie. Boat lands at post in summer. Reservation, $26\frac{1}{2}$ acres. Under act of July 8, 1886 (G. O. 52 of 1886), all the buildings and a portion of the lots have been sold. Remaining lots in charge of post quartermaster new Fort Brady.

Brady (new), Fort, Mich.—Latitude, $46^{\circ} 30'$; longitude, $84^{\circ} 20'$. West of and adjoins the city of Sault Ste. Marie, Mich., on Duluth, South Shore and Atlantic Railroad. Post-office, telegraph, and railroad station, Sault Ste. Marie. Reservation, about 75 acres. Title acquired under provisions of act of July 8, 1886. No special cession of jurisdiction unless embraced in general provisions of State act of March 21, 1874. Accommodations for 12 officers and 4 companies infantry. Water supply from Sault Ste. Marie waterworks. Sewer system. Target-range lands announced in G. O. 19, 1895.

Brown, Fort, Tex.—Latitude, $25^{\circ} 53'$; longitude, $97^{\circ} 21'$. On the Rio Grande, adjoining city of Brownsville. Post-office, telegraph, and railroad station, Brownsville. Reservation, 358 $\frac{1}{2}$ acres. Jurisdiction ceded to United States. Accommodations for 20 officers, 2 troops cavalry, 2 companies infantry. Water supply pumped from Rio Grande into distributing tanks of total capacity of 52,000 gallons. No sewer system. Open drains.

Buford, Fort, N. Dak.—Latitude, $47^{\circ} 59'$; longitude, $103^{\circ} 58'$. On Missouri River, 2 miles below mouth of Yellowstone, on line of Great Northern Railroad, 660 miles from St. Paul. Post-office, telegraph, and railroad station at post. Reservation, about 435,418 acres. Jurisdiction ceded to the United States. Accommodations for 18 officers, 2 troops cavalry, 2 companies infantry, and band. Water supply pumped from the Missouri River into an elevated tank of 50,000 gallons capacity, thence distributed to post. Partial sewer system.

Canby, Fort, Wash.—Latitude, $46^{\circ} 17'$; longitude, $124^{\circ} 3'$. Near mouth of Columbia River, on north bank, 14 miles from Astoria, 7 miles from Fort Stevens, Oreg., 112 miles from Portland, Oreg., and 118 miles from Vancouver Barracks, Wash. Post-office and telegraph station at post; daily steamer from Portland to Astoria, 98 miles, thence by steam tug to post, 14 miles. Reservation, 588.2 acres. Jurisdiction ceded to United States. Accommodations for 7 officers and 2 batteries of artillery. Water supply pumped to reservoir of 47,000 gallons capacity from dams in ravines, thence distributed by gravity. Sewer system.

Carroll, Fort, Md.—Latitude, $39^{\circ} 15'$; longitude, $76^{\circ} 35'$. Post-office and telegraph station, Baltimore; distant $6\frac{1}{2}$ miles from Light street wharf. Reservation, 4 acres. Jurisdiction ceded to United States. Not garrisoned. In charge of Engineer Department.

Caswell, Fort, N. C.—Latitude, 34° ; longitude, $78^{\circ} 1'$. Oak Island, North Carolina, 2 miles from Southport and 22 miles from Wilmington. Post-office and telegraph station, Southport, N. C. Steamer daily from Wilmington to Southport. Reservation, about 2,325 acres. Jurisdiction ceded to United States. Not garrisoned. In charge of ordnance sergeant.

Clark, Fort, Tex.—Latitude, $29^{\circ} 17'$; longitude, $100^{\circ} 25'$. On Las Moras Creek, adjoining Brackettville, 10 miles from Spofford Junction, on Southern Pacific Railroad, and 143 miles from San Antonio. Post-office, Brackettville, Tex., telegraph station, Fort Clark, via Spofford Junction; daily stage from Spofford Junction. Reservation, 3,963.2 acres. Jurisdiction ceded to United States. Accommodations for 35 officers, 8 troops cavalry, and 5 companies infantry. Water supply from Las Moras Springs pumped into tanks of 37,580 gallons capacity, thence distributed by iron pipes. No sewer system.

Clarks Point, Mass.—Latitude, $41^{\circ} 35'$; longitude, $90^{\circ} 54'$. Three miles from New Bedford, which is the post-office and telegraph station. Reservation, 60 acres. Jurisdiction ceded to United States. Not garrisoned. In charge of ordnance sergeant.

Clinch, Fort, Fla.—Latitude, $30^{\circ} 41'$; longitude, $81^{\circ} 28'$. On Amelia Island, Florida, 3 miles from Fernandina, which is the post-office, telegraph, and railroad station. Reservation, 419.44 acres. Jurisdiction ceded to United States. Not garrisoned. In charge of ordnance sergeant.

Columbus Barracks, Ohio.—Latitude, $39^{\circ} 57'$; longitude, $82^{\circ} 59'$. Post-office and railroad station, Columbus, Ohio; telegraph station at post. Reservation, 77 acres 3 roods 8 perches. Jurisdiction ceded to United States. Accommodations for 21 officers, 8 companies infantry, and 100 recruits. Water supply, Columbus City waterworks. Sewer system.

Columbus, Fort, New York Harbor.—Latitude, $40^{\circ} 42'$; longitude, $74^{\circ} 9'$. On Governors Island, at junction of North and East rivers, 2 miles from New York City. Post-office, New York City. Telegraph station, Governors Island, N. Y. Government steamer from New York City, Pier No. 3, East River. Contains about $65\frac{1}{2}$ acres. Jurisdiction ceded to United States. Fort Columbus will accommodate 12 officers and 3 batteries of artillery. Governors Island (headquarters Department of the East) has accommodations for 18 officers. Water supply from Brooklyn City waterworks. Sewer system.

Constitution, Fort, N. H.—Latitude, $43^{\circ} 4'$; longitude, $70^{\circ} 49'$. On Great Island, New Hampshire, 3 miles from Portsmouth. Post-office, New Castle, N. H. Telegraph and railroad station, Portsmouth. Stage or steamer from Portsmouth. Reservation, $3\frac{1}{4}$ acres. Jurisdiction ceded to United States. Not garrisoned. In charge of ordnance sergeant.

Crook, Fort, Nebr.—Latitude, $41^{\circ} 20'$; longitude, 96° . On the Union Pacific Railroad, about 5 miles southwest of the city of Omaha. Post-office, telegraph, and railroad station, Omaha. Reservation, 545.67 acres, acquired under act of July 23, 1888. Jurisdiction ceded to United States. Accommodations for 12 officers and 4 companies infantry in course of construction. Water and sewer systems completed. Not yet garrisoned.

Custer, Fort, Mont.—Latitude, $45^{\circ} 44'$; longitude, $107^{\circ} 31'$. On the Big Horn River, 32 miles from Custer Station, on Northern Pacific Railroad, 13 miles from Custer battlefield, 838 miles from St. Paul, 92 miles from Sheridan, Wyo. Post-office, telegraph, and railroad station (Burlington and Missouri River) at post. Reservation, 36 square miles. Custer battlefield, 1 square mile. Jurisdiction ceded to United States. Accommodations for 24 officers, 7 troops cavalry, 1 company infantry, and band. Water pumped from Little Big Horn River by steam power to elevated tank of 20,000 gallons capacity, thence distributed by a system of pipes. Natural drainage. Partial sewer system.

D. A. Russell, Fort, Wyo.—Latitude, $41^{\circ} 8'$; longitude, $104^{\circ} 50'$. On Union Pacific, Denver and Gulf Railroad, 3 miles west of Cheyenne, on Union Pacific Railroad. Post-office, telegraph, and railroad station (Cheyenne and Northern) at post. Post reservation, 4,512 acres. Hay reservation, 2,540.64 acres. Jurisdiction ceded to United States. Accommodations for 34 officers, 4 troops cavalry, 5 companies infantry, and band. Water supply system is received from Crow Creek by percolation through the gravel strata into five wells; it is pumped into two reservoirs of total capacity of about 200,000 gallons, thence distributed to post. Sewer system.

David's Island, New York Harbor.—Latitude, $40^{\circ} 53'$; longitude, $73^{\circ} 48'$. At the southwestern extremity of Long Island Sound, 2 miles from New Rochelle, Westchester County, N. Y., and 22 miles from New York City. Post-office at post. Telegraph station, New Rochelle, N. Y. Horse cars and boat to post. Reservation, the entire island, about $86\frac{1}{2}$ acres. Jurisdiction ceded to United States. Accommodations for 13 officers, 6 companies infantry. Water supply from New Rochelle waterworks. Sewer system.

Davis, Fort, Tex.—Latitude, $30^{\circ} 36'$; longitude, $103^{\circ} 36'$. In a pass of the Apache Mountains, 22 miles from Marfa, on the Southern Pacific Railroad. Post-office, telegraph, and railroad station, Marfa. Reservation, 300 acres. Jurisdiction ceded to United States. Not garrisoned.

Delaware, Fort, Del.—Latitude, $39^{\circ} 35'$; longitude, $76^{\circ} 34'$. On Pea Patch Island, Delaware, $1\frac{1}{2}$ miles from Delaware City and 42 miles from Philadelphia. Post-office and telegraph station, Delaware City. Daily steamer from Philadelphia to Delaware City. Reservation, about 90 acres. Jurisdiction ceded to United States. Not garrisoned. In charge of ordnance sergeant.

Del Rio, Camp, Tex.—Latitude, $29^{\circ} 22'$; longitude, $100^{\circ} 46'$. On the Southern Pacific Railroad, 1 mile from station. Reservation, 407.93 acres. Jurisdiction ceded to United States. Accommodations for 4 officers and 40 men (estimated). Not garrisoned. Reservation retained by War Department.

Douglas, Fort, Utah.—Latitude, $40^{\circ} 46'$; longitude, $111^{\circ} 56'$. Three miles from Salt Lake City. Post-office, telegraph, and railroad station, Salt Lake City, which is on Utah Central and Rio Grande Western railroads, 37 miles from Ogden on Union Pacific Railroad. Electric cars from Salt Lake City to post; also trains on Salt Lake and Fort Douglas Railroad. Reservation, 4 square miles, less 151 acres surrendered by act of Congress and 20 acres set apart for a cemetery; enlarged by act of March 3, 1887, and by G. O. 39 of 1890 to 8,748.19 acres. Accommodations for 27 officers, 10 companies infantry, and band. Water supply piped from Red Butte Creek by gravity to reservoir of 700,000 gallons capacity at post and distributed through pipes. Sewer system.

Du Chesne, Fort, Utah.—Latitude, $40^{\circ} 16'$; longitude, $109^{\circ} 52'$. On right bank of the Uintah River, about 8 miles above its confluence with the Du Chesne River, and on the road between Ouray (about 20 miles distant) and White Rocks (about 15 miles distant). Post reached by wagon and stage from Price Station, distance 85 miles, on Rio Grande Western Railroad. Freight sent by this route. Post-office and telegraph station at post. Reservation provisional, 6 square miles, within the limits of the Uintah Indian Reservation. Accommodations for 19 officers, 2 troops cavalry, 4 companies infantry. Water supplied by water wagon. No sewer system. G. O. 70 of 1892 directs withdrawal of garrison and abandonment of post.

Dutch Island, R. I.—Latitude, $41^{\circ} 30'$; longitude, $71^{\circ} 24'$. Five miles from Newport. Post-office, Jamestown, R. I.; telegraph station, Newport. Steam ferry from Newport to Jamestown, 4 miles, thence private boat to post, 1 mile. Reservation, 75 acres. Jurisdiction ceded to United States. Not garrisoned. In charge of ordnance sergeant.

Eagle Pass, Tex.—A subpost of Fort Clark. Latitude, $28^{\circ} 42'$; longitude, $100^{\circ} 30'$. In Maverick County; part of old Fort Duncan. Reservation, 155.34 acres. Jurisdiction ceded to United States. Post-office, telegraph, and railroad station at post. Accommodations for 8 officers and 1 troop cavalry. Water drawn from well by windmill into tank of 10,800 gallons capacity, and thence distributed by pipes. Water purchased for domestic purposes. No sewer system.

Ethan Allen, Fort, Vt.—Latitude, $44^{\circ} 30'$; longitude, $73^{\circ} 10'$. Situated partly in Colchester and partly in Essex townships, Chittenden County, 2 miles from Essex Junction and 6 miles from Burlington. Railroad station at post. Post-office, Essex Junction, Vt. Telegraph station, via Burlington, Vt. Reservation, 600 acres. Jurisdiction ceded to United States. Accommodations for 14 officers and 4 troops cavalry. Water is obtained from two drive wells, forced by Pohle air-lift pump into cistern of about 2,400 gallons capacity in pump house, thence pumped into standpipe of 50,000 gallons capacity, and distributed throughout post by 6-inch main. Sewer system. Measures being taken for securing additional land through condemnation proceedings.

Finns Point, N. J.—Latitude, $39^{\circ} 32'$; longitude, $75^{\circ} 45'$. On Delaware River, 6 miles from Salem, N. J., which is the post-office, telegraph, and railroad station. Reservation, 104.35 acres. Jurisdiction ceded to United States. Not garrisoned. In charge of Engineer Department.

Foote, Fort, Md.—Latitude, $38^{\circ} 48'$; longitude, $77^{\circ} 41'$. On Potomac River, 9 miles from Washington. Post-office at post. Telegraph station, Alexandria, Va. Steamboats from Washington, D. C. Reservation, about $66\frac{1}{2}$ acres. Jurisdiction ceded to United States. Not garrisoned. In charge of ordnance sergeant.

Gaines, Fort, Ala.—Latitude, $30^{\circ} 15'$; longitude, $88^{\circ} 4'$. On Dauphin Island, Ala., 30 miles from Mobile by boat, which is the post-office, telegraph, and railroad station. Reservation, about 983.9 acres. Jurisdiction ceded to United States. Not garrisoned. In charge of ordnance sergeant.

Goose Island, Wash.—Latitude, $48^{\circ} 31'$; longitude, $122^{\circ} 58'$. In the strait of San Juan de Fuca.

Georges, Fort, Me.—Latitude, $43^{\circ} 39'$; longitude, $70^{\circ} 13'$. On Hog Island, Portland Harbor, Me., 2 miles from Portland, which is the post-office, telegraph, and railroad station. Reservation, about $1\frac{1}{2}$ acres. Jurisdiction ceded to the United States. Not garrisoned. In charge of ordnance sergeant.

Grant, Fort, Ariz.—Latitude, $32^{\circ} 37'$; longitude, $109^{\circ} 54'$. Twenty-six miles from Wilcox, on the Southern Pacific Railroad. Post-office and telegraph station at post. Daily stage (except Sunday) from Wilcox. Reservation, 42,341 acres. Accommodations for 17 officers, 6 troops cavalry, and band. Water supply piped from reservoir of 75,000 gallons capacity, fed by streams. Sewer system.

Griswold, Fort, Conn.—Latitude, $41^{\circ} 22'$; longitude, $81^{\circ} 8'$. Groton Heights, 1 mile from New London. Post-office, Groton, Conn. Telegraph and railroad station, New London. Ferry from New London to post. Reservation, 14 acres. Jurisdiction ceded to United States. Not garrisoned. In charge of ordnance sergeant.

Hamilton, Fort, N. Y.—Latitude, $40^{\circ} 37'$; longitude, $74^{\circ} 1'$. On Long Island, $5\frac{1}{2}$ miles south of New York City, commanding The Narrows. Post-office and telegraph station at post. City railroad from Brooklyn, distant 7 miles. Reservation, 153 acres. Jurisdiction ceded to United States. Accommodations for 19 officers in cottages and 2 in casemates; 4 batteries of artillery. Water supplied by New Utrecht Water Company. Sewer system.

Hancock, Fort, Tex.—Latitude, $31^{\circ} 20'$; longitude, $205^{\circ} 55'$. Situated on the Rio Grande, 54 miles southeast of El Paso and $1\frac{1}{4}$ miles from Hancock Station, on the Southern and Texas Pacific Railroad. Post-office at post. Telegraph and railroad station, Fort Hancock Station, distance $1\frac{1}{4}$ miles from post. Reservation, 469.2 acres. Jurisdiction ceded to United States. Accommodations for 4 officers and 1 troop cavalry. Water pumped from well near the Rio Grande into settling tanks of 37,000 gallons capacity and distributed by iron pipes. Tile drains leading to cesspools; no other sewerage.

Harrison, Fort, Mont.—Latitude, $46^{\circ} 33'$; longitude, $111^{\circ} 58'$. Situated 3 miles from the city of Helena, in Lewis and Clarke County. Post-office, telegraph, and railroad station, Helena, Mont. Reservation, 1,040 acres, acquired by donation, under act of Congress of May 12, 1892. Jurisdiction ceded to United States. Accommodations for 6 officers and 2 companies of infantry. Water and sewer systems completed. Water to be furnished by Helena Consolidated Water Company, except for irrigation. Not garrisoned.

Huachuca, Fort, Ariz.—Latitude, $31^{\circ} 33'$; longitude, $110^{\circ} 16'$. In Cochise County, 7 miles from Huachuca siding, on the New Mexico and Arizona Railroad. Post-office and telegraph station at post. Daily buckboard from Huachuca siding. Reservation, 70 square miles. Accommodations for 18 officers, 5 troops cavalry, 1 company infantry. Water supply piped from springs 3 miles distant to distributing reservoirs of about 250,000 gallons capacity. Sewer system.

Independence, Fort, Mass.—Latitude, $42^{\circ} 21'$; longitude, 71° . On Castle Island, Boston Harbor, 3 miles from Boston, which is the post-office, telegraph, and railroad station. Government tug from Boston. Reservation, 12 acres. Jurisdiction ceded to United States. Not garrisoned. In charge of ordnance sergeant. Accommodations for 1 field and 6 company officers in cottages outside fort, and for 80 men, 2 batteries, in casemates.

Jackson Barracks, La.—Latitude, $29^{\circ} 57'$; longitude, 90° . On the east bank of the Mississippi River, 6 miles below city of New Orleans, which is the post-office and railroad and telegraph station. Street cars from New Orleans pass post. Reservation, 87.87 acres. Jurisdiction believed to be ceded to United States. Accommodations for 11 officers and 2 companies infantry. Water pumped from Mississippi River. Surface drainage by brick-lined drains.

Jackson, Fort, La.—Latitude, $29^{\circ} 21'$; longitude, $89^{\circ} 26'$; 73 miles from New Orleans. Post-office, Neptune, La. Telegraph station, Quarantine, La. Steamer triweekly from New Orleans. Reservation, 740.97 acres. Jurisdiction ceded to United States. Not garrisoned. In charge of ordnance sergeant.

Jefferson Barracks, Mo.—Latitude, $38^{\circ} 28'$; longitude, $90^{\circ} 17'$. In South St. Louis, on the Mississippi River, 10 miles from St. Louis. Post-office, telegraph, and railroad station at post. Reservation, 1,379.06 acres. Jurisdiction ceded to United States. Accommodations for 22 officers, 4 companies infantry, 4 troops cavalry, and band. Water from St. Louis waterworks. Sewer system.

Jefferson, Fort, Fla.—Latitude, $24^{\circ} 38'$; longitude, $82^{\circ} 52'$; on Garden Key, one of the Tortugas group, being the most southwestern part of the so-called Florida reefs, 71 miles from Key West, which is the post-office and telegraph station, and 500 miles southeast of Fort Barrancas. Boat from Key West to post. Reservation, 5 acres. Jurisdiction believed to be ceded to United States. Not garrisoned. In charge of ordnance sergeant. Two substantial three-story brick buildings; one for officers' quarters, 63 rooms; the other for soldiers, 50 rooms.

Jeffersonville, Ind.—(General depot, quartermaster's department).—Latitude, $38^{\circ} 16'$; longitude, 86° . Located within the limits of the city, 2 miles from Louisville, Ky., 4 miles from New Albany, Ind. Post-office and telegraph station, Jeffersonville. Reservation, $17\frac{1}{2}$ acres. Jurisdiction ceded. Water supply from 2 driven wells run by steam pumps into 2 reservoirs of approximate capacity of 700,000 gallons.

Johnston, Fort, N. C.—Latitude, 34° ; longitude, $78^{\circ} 5'$. Twenty-two miles from Wilmington. Post-office and telegraph station, Southport, N. C. Steamer daily from Wilmington. Reservation, 43,560 square feet. Jurisdiction ceded to United States. Not garrisoned. One set of officers' quarters used as signal office. No other existing buildings.

Keogh, Fort, Mont.—Latitude, $46^{\circ} 23'$; longitude, $105^{\circ} 57'$. On Northern Pacific Railroad, 747 miles from St. Paul; 2 miles from Miles City. Post-office, telegraph, and railroad station at post. Reservation, about 90 square miles. Jurisdiction ceded to United States. Accommodations for 27 officers, 2 troops cavalry, 5 companies infantry, and band. Water pumped from 2 wells on bank of the Yellowstone River and distributed by direct pressure. Partial sewer system.

Key West Barracks, Fla.—Latitude, $24^{\circ} 33'$; longitude, $81^{\circ} 48'$. Post-office, telegraph station, and steamer landing, Key West. Reservation, 22.79 acres. Jurisdiction ceded to United States. Accommodations for 7 officers and 2 batteries of artillery. Water supply from cisterns.

Knox, Fort, Me.—Latitude, $44^{\circ} 34'$; longitude, $68^{\circ} 48'$. Three-fourths of a mile from Bucksport by ferry. Post-office, Prospect Ferry, Me. Telegraph and railroad station, Bucksport. Reservation, 150 acres. Jurisdiction ceded to United States. Not garrisoned. In charge of ordnance sergeant. No quarters for men or officers.

Lafayette, Fort, New York Harbor.—Latitude, $40^{\circ} 37'$; longitude, $74^{\circ} 2'$. Six miles from Brooklyn. Post-office and telegraph station at post. City railroad from Brooklyn. Reservation, about 2 acres. Jurisdiction ceded to United States. Not garrisoned. In charge of post commander, Fort Hamilton, N. Y.

Leavenworth, Fort, Kans.—Latitude, $39^{\circ} 21'$; longitude, $94^{\circ} 55'$. On Missouri River, 3 miles from Leavenworth City. Post-office, telegraph, and railroad station at post.

Post reservation, about 5,960 acres; timber reservation, across the river in Missouri, of 939.37 acres. Jurisdiction ceded to United States; but as to timber reservation, no cession. Accommodations for 93 officers, 4 troops cavalry, 6 companies infantry, and 1 light battery. Water supply, Fort Leavenworth Water Company. Sewer system.

Leavenworth Military Prison, Kans.—Latitude, $39^{\circ} 21'$; longitude, $94^{\circ} 55'$. On the Fort Leavenworth Military Reservation. Post-office, telegraph, and railroad station, Fort Leavenworth. Buildings and grounds transferred under act March 2, 1895, to Department of Justice. Reservation limits announced in G. O. 19, 1895.

Little Rock, Ark. (new post).—Latitude, $34^{\circ} 43'$; longitude, $92^{\circ} 10'$. Site of 1,100 acres, more or less, has been acquired under authority of act of April 23, 1892, and title approved by the Attorney-General. Situated on a bluff 305 feet high, overlooking the valley of the Arkansas River, about $3\frac{1}{4}$ miles above the city of Little Rock. Jurisdiction ceded to United States. Buildings for two companies, including water and sewer systems, now under construction.

Livingston, Fort, La.—Latitude, $29^{\circ} 15'$; longitude, 90° . On Grand Terre Island. Post-office, Grand Isle, La. Telegraph and railroad station, New Orleans. Steamer weekly from New Orleans; distant 95 miles. Reservation, 126.16 acres. Jurisdiction ceded to United States. Not garrisoned. Transferred to Quartermaster's Department in 1888, and now in charge of light-house keeper.

Logan, Fort, Colo.—Latitude, $39^{\circ} 40'$; longitude, $105^{\circ} 1'$. On Bear Creek, 10 miles from Denver. Morrison branch Union Pacific Railroad one-half mile from post. Post-office; telegraph station at post. Reservation, 640 acres. Jurisdiction ceded to United States. Accommodations for 28 officers, 2 troops cavalry, 8 companies infantry, and band. Water supply pumped from two artesian wells to reservoir of 10,000 gallons capacity and distributed through pipes. Sewer system.

Mackinac, Fort, Mich.—Latitude, $45^{\circ} 51'$; longitude, $84^{\circ} 41'$. On Mackinac Island, in the Straits of Mackinac, overlooking the village of Mackinac. Post-office and telegraph station, Mackinac Island, Mich. Boat from Mackinac City (11 miles) and from St. Ignace (5 miles). Steamers from Chicago, Detroit, and other lake ports daily. Military reservation proper, 103.41 acres. No special cession of jurisdiction. Cession perhaps embraced in general provisions of State act of March 24, 1874. National park, under immediate control of military authorities, 821 acres. Accommodations for 7 officers and 1 company of infantry. Water pumped from springs to reservoir of 16,000 gallons capacity, thence distributed. Sewer system. Not garrisoned. Transferred to State of Michigan, act of March 2, 1895—G. O. 13, 1895.

Macomb, Fort, La.—Latitude, $30^{\circ} 5'$; longitude, $89^{\circ} 51'$. One and one-half miles from Chef Menteur. Post-office, Lee, La. Telegraph station, Chef Menteur, La. Reservation, 1,364.71 acres. Jurisdiction believed to be ceded to the United States. Not garrisoned. In charge of ordnance sergeant. Title in dispute.

Macon, Fort, N. C.—Latitude, $30^{\circ} 41'$; longitude, $76^{\circ} 40'$. Two miles from Beaufort and Morehead City. Post-office, Beaufort, N. C. Telegraph and railroad station, Morehead City. Reservation, $1\frac{1}{4}$ square miles. Jurisdiction ceded to United States. Not garrisoned. In charge of ordnance sergeant. Four sets of officers' quarters and 2 sets of noncommissioned officers' quarters, all in bad condition.

Madison Barracks, N. Y.—Latitude, $43^{\circ} 57'$; longitude, $76^{\circ} 15'$. On south shore of Black River Bay, about 10 miles from Lake Ontario, adjoining town of Sackett Harbor, which is the post-office, telegraph, and railroad station. Reservation, $34\frac{1}{2}$ acres, in addition to which about 52 acres have been acquired under provision of act of March 2, 1889. Jurisdiction ceded to United States. Accommodations for 26 officers, 8 companies infantry, and band. Water pumped from Henderson Bay to a standpipe of 52,000 gallons capacity on reservation; pipe distribution; sewer system. NOTE.—United States also owns small lot of about $\frac{1}{4}$ acre near corner of Main and Hill streets, Sacketts Harbor.

Target range, 805.91 acres, at Stony Point, 16 miles from Madison Barracks.

Marion, Fort, Fla.—Latitude, $29^{\circ} 53'$; longitude, $81^{\circ} 17'$. Situated in the city of St. Augustine, Fla., which is the post-office, telegraph, and railroad station. Reservation, about $22\frac{1}{2}$ acres. Jurisdiction ceded to United States. Not garrisoned. In charge of post commander St. Francis Barracks.

Mason, Fort, Cal.—Latitude, $37^{\circ} 1'$; longitude, $122^{\circ} 20'$. At Point San Jose or Black Point, on San Francisco Bay, within the city limits of San Francisco. Post-office, Station A, San Francisco. Telegraph station at post. Railroad station, San Francisco; distance, 3 miles. Cable cars to post. Reservation, $55\frac{1}{4}$ acres. Jurisdiction ceded to United States. Accommodations for 1 department commander, 5 officers, and 1 battery of artillery. Water supply from the Spring Valley Water Company. Sewer system.

McClary, Fort, Me.—Latitude, $43^{\circ} 5'$; longitude, $70^{\circ} 45'$. On Kittery Point, Me., $3\frac{1}{4}$ miles from Portsmouth, N. H. Post-office, telegraph, and railroad station, Kittery Point, Me. Reservation, 15 acres. Jurisdiction ceded to United States. Not garrisoned. In charge of ordnance sergeant.

McHenry, Fort, Md.—Latitude, $39^{\circ} 15'$; longitude, $76^{\circ} 35'$. On Whetstone Point, in the city of Baltimore, which is the post-office, telegraph, and railroad station. Reservation, $34\frac{1}{2}$ acres. Electric cars to post. Jurisdiction ceded to United States. Accommodations for 10 officers and 3 batteries of artillery. Water supply from Baltimore City waterworks. Sewer system.

McIntosh, Fort, Tex.—Latitude, $27^{\circ} 30'$; longitude, $99^{\circ} 29'$. In Webb County, on the Rio Grande, 1 mile from Laredo, which is the post-office, telegraph, and railroad station. Reservation, about 208 acres. Jurisdiction ceded to United States. Accommodations for 12 officers, 2 troops cavalry, and 1 company infantry. Water pumped from well on bank of Rio Grande to 2 elevated tanks of 30,000 gallons total capacity, thence distributed through pipes. Surface drainage.

McPherson, Fort, Ga.—Latitude, $33^{\circ} 48'$; longitude, $84^{\circ} 31'$. Situated south of and 4 miles from the center of the city of Atlanta, Ga., which is the post-office, telegraph, and railroad station. Reservation, 236.41 acres. Jurisdiction ceded to United States. Accommodations for 30 officers, 8 batteries of artillery, and band. Water supply pumped from 2 nonflowing artesian wells to elevated tanks of 45,000 gallons total capacity, thence distributed. Sewer system.

Meade, Fort, S. Dak.—Latitude, $44^{\circ} 25'$; longitude, $103^{\circ} 28'$. In Meade County, 2 miles from Sturgis, on the Fremont, Elkhorn and Missouri Valley Railroad, and 797 miles from St. Paul. Post-office at post. Telegraph and railroad station, Sturgis, S. Dak. Post reservation, about $12\frac{1}{2}$ square miles. Wood and timber reservation of 27,293 acres. Jurisdiction ceded to United States. Small addition to reservation purchased in 1889 for increasing water supply. Accommodations for 23 officers, 8 troops cavalry, 2 companies infantry, and band. Water from springs, pumped into a reservoir of 94,000 gallons capacity, thence distributed. Surface drainage.

Merritt, Camp, Mont., at Tongue River Indian Agency, Mont.—A subpost of Fort Keogh, Mont., 60 miles from Rosebud, on Northern Pacific Railroad; 776 miles from St. Paul. Stage leaves station three times a week for Tongue River Agency. Camp is 60 miles from Fort Custer and 90 miles from Fort Keogh. Post-office, Lone Deer, near Camp. Telegraph and railroad station, Rosebud, Mont. Accommodations for 2 officers; 1 barrack. Spring water. No sewer system.

Mifflin, Fort, Pa.—Latitude, $39^{\circ} 53'$; longitude, $75^{\circ} 13'$. On Mud Island, Delaware River, 5 miles from Philadelphia, which is the post-office, telegraph, and railroad station. Reservation, about 317 acres. Jurisdiction ceded to United States. Not garrisoned. In charge of ordnance sergeant.

Missoula, Fort, Mont.—Latitude, $46^{\circ} 50'$; longitude, $114^{\circ} 50'$. On Bitter Root River, 1 mile from Bitter Root, on the Missouri and Bitter Root Valley branch of the Northern Pacific Railroad, 4 miles from Missoula, Mont., on the Northern Pacific Railroad, and 1,254 miles from St. Paul. Post-office at post; telegraph and railroad (Northern Pacific) station, Missoula. Reservation, 640 acres, and 560 acres, not reserved, held by military occupancy. Post not on reservation. Wood and timber reserve, 1,677.41 acres, 6 miles southeast of post. No cession of jurisdiction. Accommodations for 13 officers and 4 companies infantry. Water pumped from Bitter Root River and distributed through pipes by direct pressure or from a tank of 27,000 gallons capacity. Surface drainage.

Monroe, Fort, Va.—Latitude, 37° ; longitude, $76^{\circ} 18'$. Situated at Old Point Comfort, commanding the entrance to Hampton Roads. Post-office and telegraph station at post. Steamers daily from Baltimore, Washington, Norfolk, and New York; railroad (Chesapeake and Ohio) from Richmond. Reservation, about 267 acres. Jurisdiction ceded to United States. Cession does not include the 15 acres in Elizabeth City County acquired February 12, 1841, for a pumping station. Accommodations for 37 officers in cottages and 14 in casemates, 8 batteries of artillery, and band. Water pumped from a system of driven wells located near post. Sewer system constructed by engineers considered defective. New sewer system being constructed by Engineer Department.

Montgomery, Fort, N. Y.—Latitude, 45° ; longitude, $73^{\circ} 20'$. Situated on Rouse Point, N. Y., 191 miles from Albany, N. Y. Post-office, telegraph and railroad station, Rouse Point, N. Y., $1\frac{1}{2}$ miles from post. Reservation, 600 acres. Jurisdiction ceded to United States. Not garrisoned. In charge of ordnance sergeant.

Morgan, Fort, Ala.—Latitude, $30^{\circ} 14'$; longitude, 88° . Situated on Mobile Point, 30 miles from Mobile. Post-office, Herndon, Ala. Telegraph station at the post. Steamer from Mobile. Reservation, 322.42 acres. Jurisdiction ceded to United States. Not garrisoned. In charge of ordnance sergeant.

Moultrie, Fort, S. C.—Latitude, $32^{\circ} 45'$; longitude, $79^{\circ} 51'$. On Sullivan's Island, 5 miles from Charleston. Post-office, Moultrieville, S. C. Telegraph and railroad station, Charleston, S. C. No reservation; 4 acres held. Jurisdiction ceded to United States. Not garrisoned. In charge of ordnance sergeant.

Myer, Fort, Va.—Latitude, $38^{\circ} 53'$; longitude, $77^{\circ} 3'$. On Arlington Heights, 4 miles from the Capitol building, Washington, D. C., which is the post-office, tele-

graph, and railroad station. Telephone to post from city. Post reservation, 188 acres (a portion of the Arlington estate, the area of which is 1,073.4 acres). Jurisdiction ceded to United States. Accommodations for 14 officers and 4 troops cavalry. Sewer system. Water raised by steam from Potomac River into 2 tanks of 30,000 gallons capacity each, thence distributed.

New York City, N. Y.—General depot, quartermaster department. Latitude, $40^{\circ} 42'$; longitude, $73^{\circ} 59'$. Located in "Army Building," owned by United States, corner Whitehall and Pearl streets. Post-office and telegraph station, New York City. Reservation, about 9,400 square feet. Jurisdiction ceded. Water supply by department of public works of New York City.

Niagara, Fort, N. Y.—Latitude, $43^{\circ} 18'$; longitude, $79^{\circ} 8'$. On the Niagara River, at its junction with Lake Ontario, 14 miles below Niagara Falls, 7 miles from Lewiston, N. Y., which is the railroad station. Post-office, Youngstown, N. Y. Telegraph station via Niagara Falls, N. Y. Reservation, 288½ acres. Jurisdiction ceded to United States. Accommodations for 13 officers and 4 companies of infantry. Water pumped from the Niagara River into tank of 30,000 gallons capacity, thence distributed. Sewer system.

Niobrara, Fort, Nebr.—Latitude, $42^{\circ} 53'$; longitude, $100^{\circ} 46'$. On the Niobrara River, 4½ miles from Valentine, on the Fremont, Elkhorn and Missouri Valley Railroad. Post-office at post. Telegraph and railroad station, Valentine, Nebr. Reservation, 54 square miles 452 acres. Jurisdiction ceded to United States. Accommodations for 25 officers, 6 troops cavalry, and 3 companies infantry. Water from springs is pumped into tanks of 35,000 gallons total capacity and distributed by gravity. Sewer system.

Oglethorpe, Fort, Ga.—Latitude, $32^{\circ} 2'$; longitude, $80^{\circ} 34'$. On west bank of the Savannah River, 3 miles below the city of Savannah, which is the post-office, telegraph, and railroad station. Reservation, 200 feet on the Savannah River, running back 345 feet. Jurisdiction ceded to United States. Not garrisoned. In charge of ordnance sergeant.

Omaha, Fort, Nebr.—Latitude, $41^{\circ} 20'$; longitude, 96° . On Fremont, Elkhorn and Missouri Valley Railroad, 4 miles from Webster Street depot, within the limits of city of Omaha. Post-office and telephone at post. Railroad station, Omaha Heights. Reservation (old), 82.50 acres. Accommodations for 25 officers and 11 companies infantry. Water from American Waterworks Company. Partial sewer system. Act of July 23, 1888, authorized sale of Fort Omaha and purchase of a new site of not less than 320 nor more than 640 acres. (General Orders, No. 60, of 1888.) (See Fort Crook.) G. O. 34 of 1894 discontinued ordnance depot and turns buildings over to Quartermaster's Department.

Omaha Depot, Nebr.—Latitude, $41^{\circ} 20'$; longitude, 96° . In Omaha City. Reservation, 5 acres.

Ontario, Fort, N. Y.—Latitude, $43^{\circ} 27'$; longitude, $76^{\circ} 30'$. On Oswego River, at its junction with Lake Ontario, adjoining the city of Oswego, which is the post-office, telegraph and railroad station. Reservation, about 76 acres. Jurisdiction ceded to United States. Accommodations for 4 officers and 1 company infantry. Water supply from Oswego waterworks. Sewer system. Not garrisoned.

Pembina, Fort, N. Dak.—Latitude, $48^{\circ} 47'$; longitude, $97^{\circ} 12'$. On Red River of the North, 2 miles from Pembina, on the Winnipeg branch of the Northern Pacific Railroad, 416 miles from St. Paul. Post-office, telegraph and railroad station, Pembina. Reservation, about 1,920 acres. Jurisdiction ceded to United States. Accommodations for 7 officers. Water from Red River to a well by gravity, thence pumped to tank of 30,000 gallons capacity and distributed. Surface drainage.

Phenix, Fort, Mass.—Latitude, $41^{\circ} 38'$; longitude, $70^{\circ} 55'$. At Fort Point, Mass. Post-office, telegraph and railroad station, Fairhaven, Mass. Reservation, 2 acres. Jurisdiction not ceded to United States. Not garrisoned. In charge of ordnance sergeant.

Pickens, Fort, Fla.—Latitude, $30^{\circ} 19'$; longitude, $87^{\circ} 17'$. On Santa Rosa Island, 10 miles from Pensacola. Post-office, Warrington, Fla. Telegraph station, Pensacola Navy-Yard. Railroad station, Pensacola. Reservation, all of Santa Rosa Island (unsurveyed). Jurisdiction ceded to United States. Not garrisoned. In charge of ordnance sergeant.

Pike, Fort, La.—Latitude, $30^{\circ} 11'$; longitude, $89^{\circ} 38'$. On Petites Coquille Island, 7 miles from Lake Catherine Station, on the Louisville and Nashville Railroad. Post-office at the post. Telegraph station, Millers Bayou, La. Reservation, all the public land within 1,200 yards of the post. Jurisdiction ceded to United States. Not garrisoned. In custody of Quartermaster's Department (General Orders, No. 119, of 1890).

Pilot Butte, Camp, Wyo. (subpost to Fort Douglas).—Latitude, $41^{\circ} 12'$; longitude, 111° . Post-office, telegraph and railroad station, Rock Springs, Wyo., on Union Pacific Railroad. No reservation. Jurisdiction ceded to United States. Accommodations for 6 officers and 2 companies infantry. Buildings belong to and are kept in repair by the Union Pacific Railroad Company. Water furnished by Green River Water Company and paid for by the Union Pacific Railroad Company.

Plattsburg Barracks, N. Y.—Latitude, $44^{\circ} 41'$; longitude, $73^{\circ} 25'$. On west shore of Lake Champlain, at the town of Plattsburg. Post-office, telegraph and railroad station, Plattsburg, N. Y. Reservation, about 173 acres. Jurisdiction ceded to United States. In addition to which 506.35 acres have been acquired under the provisions of act of February 7, 1891. Accommodations for 30 officers and 8 companies infantry. Water from Plattsburg waterworks. Sewer system.

Popham, Fort, Me.—Latitude, $43^{\circ} 50'$; longitude, $69^{\circ} 55'$. On Hunniwell Point, 12 miles by water and 15 by land from Bath. Post-office, Popham Beach, Me. Telegraph and railroad station, Bath. Reservation, $2\frac{1}{4}$ acres. Jurisdiction ceded to United States. Not garrisoned. In charge of ordnance sergeant.

Porter, Fort, N. Y.—Latitude, $42^{\circ} 53'$; longitude, $78^{\circ} 52'$. On right bank of the Niagara River, within the limits of the city of Buffalo, which is the post-office, telegraph and railroad station. Reservation, about $28\frac{1}{4}$ acres. Jurisdiction ceded to United States. Accommodations for 9 officers and 2 companies infantry. Water from Buffalo city waterworks. Sewer system.

Preble, Fort, Me.—Latitude, $43^{\circ} 3'$; longitude, $70^{\circ} 14'$. On east side of Portland Harbor, at Spring Point, 2 miles from city of Portland, which is the post-office, telegraph, and railroad station. Reservation, about 24 acres. Jurisdiction ceded to United States. Accommodations for 5 officers and 1 battery of artillery. Water from Sebago Water Company. Sewer system.

Presidio of San Francisco, Cal.—Latitude, $37^{\circ} 47'$; longitude, $122^{\circ} 26'$. In the northwestern suburbs of San Francisco. Post-office and telegraph station at post. Railroad station, San Francisco, 5 miles from post. City railway to post. Reservation, 1,479.94 acres. Jurisdiction ceded to United States. Accommodations for 39 officers, 4 troops cavalry, 1 light battery, 4 batteries of artillery, and band. Water from drive wells at Mountain Lake, pumped by steam power into two reservoirs of 553,500 gallons total capacity. Sewer system.

Pulaski, Fort, Ga.—Latitude, $32^{\circ} 2'$; longitude, $80^{\circ} 34'$. On Cockspur Island, 14 miles from Savannah, which is the post-office, telegraph and railroad station. Reservation not surveyed. Jurisdiction ceded to United States. Not garrisoned. In charge of ordnance sergeant.

Red Bank, N. J.—Latitude, $40^{\circ} 25'$; longitude, $74^{\circ} 1'$. On east shore of Delaware River, 8 miles below Philadelphia. Reserve, 100 acres. Jurisdiction ceded to United States.

Reno, Fort, Okla.—Latitude, $35^{\circ} 35'$; longitude, $98^{\circ} 1'$. On North Fork of Canadian River. Choctaw, Oklahoma and Gulf Railroad. Post-office, telegraph and railroad station at post. Reservation, 9,493 acres. Accommodations for 18 officers, 4 troops cavalry, 2 companies infantry. Water pumped from driven wells to wooden tanks of 64,000 gallons total capacity, thence distributed. For domestic purposes water is hauled from Caddo Springs, 6 miles distance. Sewer system.

Riley, Fort, Kans.—Latitude, $39^{\circ} 4'$; longitude, $96^{\circ} 47'$. On Kansas River, $3\frac{1}{4}$ miles from Junction City, on the Union Pacific Railroad. Post-office, telegraph and railroad station at the post. Reservation, 19,899.22 acres. Jurisdiction ceded to United States. Accommodations for 49 officers, 2 light batteries, 8 troops cavalry, and 4 companies infantry. Water pumped from 8 Wagner tubular wells to reservoir of 500,000 gallons capacity, thence distributed. Sewer system.

Ringgold, Fort, Tex.—Latitude, $26^{\circ} 23'$; longitude, $98^{\circ} 47'$. On Rio Grande, 23 miles from San Miguel, on Mexican National Railroad. Post-office, Rio Grande City, Tex. Telegraph station at the post. Stage from Brownsville, 117 miles; from Pena, 76 miles, on Texas Midland Railroad, and from San Miguel, Mexico 23 miles. Reservation, 350 acres. Jurisdiction ceded to United States. Accommodations for 11 officers, 2 troops cavalry, 2 companies infantry. Water pumped from Rio Grande to 4 reservoirs; total capacity, 64,000 gallons; thence distributed through pipes. Sewer system.

Robinson, Fort, Nebr.—Latitude, $42^{\circ} 40'$; longitude, $103^{\circ} 28'$. On White River, on line of Fremont, Elkhorn and Missouri Valley Railroad, 3 miles from Crawford, on Burlington and Missouri River Railroad. Post-office, telegraph and railroad station at the post. Post reserve, 20 square miles. Wood and timber reserve, 16 square miles. Jurisdiction ceded to United States. Accommodations for 37 officers, 8 troops cavalry, and 3 companies infantry. Water pumped from springs to an elevated tank of 95,000 gallons capacity, thence distributed. Sewer system.

St. Francis Barracks, Fla.—Latitude, $29^{\circ} 53'$; longitude, $81^{\circ} 17'$. Southeast of and adjoining St. Augustine, Fla., on Matanzas River. Post-office, telegraph and railroad station, St. Augustine. Reservation proper, about $5\frac{1}{4}$ acres. Powder-house lot, about 11 acres. In addition to which two islands in the Matanzas River were reserved by Executive authority of May 31, 1892, containing 1.96 and 0.04 acres, respectively, and about 700 acres on Anastasia Island, by Executive authority of May 4, 1893. Jurisdiction ceded to United States. Accommodations for 9 officers, 2 companies infantry, and band. Water raised from an artesian well by hydraulic ram; 5 cisterns also in use. Sewer system.

St. Louis clothing depot, Mo.—Latitude, $38^{\circ} 30'$; longitude, $90^{\circ} 15'$. In the city of St. Louis, on the Missouri River. Reservation, 31.8 acres. No cession of jurisdiction. Water supply from city waterworks.

St. Philip, Fort, La.—Latitude, $29^{\circ} 25'$; longitude, $89^{\circ} 30'$. Post-office, Neptune, La.; telegraph station, Quarantine, La. Steamer triweekly from New Orleans, 73 miles, and from Bohemia, on New Orleans and Gulf Railroad, distance, 25 miles. Reservation, 640 acres. Jurisdiction ceded to United States. Not garrisoned. In charge of ordnance sergeant.

Sam Houston, Fort, Tex.—Latitude, $29^{\circ} 27'$; longitude, $98^{\circ} 28'$. In Bexar County, 2 miles north of San Antonio, which is the post-office, telegraph, and railroad station. Reservation, 469.23 acres. Jurisdiction ceded to United States. Accommodations for 34 officers, 3 troops cavalry, 8 companies infantry, 1 light battery. Headquarters Department of Texas has accommodations for 15 officers. Water supply, San Antonio Water Company. Drainage by means of a system of vitrified pipes.

San Carlos, Ariz. (subpost of Fort Grant).—Latitude, $33^{\circ} 10'$; longitude, $110^{\circ} 25'$. On Gila River, within limits of White Mountain Indian Reservation, 105 miles from Bowie and 106 miles from Wilcox, on the Southern Pacific Railroad. Post-office and telegraph station at post. Daily stage, except Sunday, from Bowie via Forts Grant and Thomas. Temporary accommodations for 12 officers, 2 troops cavalry, and 1 company infantry. Water pumped from well near San Carlos River into 2 tanks of 19,000 gallons capacity each, distributed. Natural drainage.

San Diego Barracks, Cal.—Latitude $32^{\circ} 43'$; longitude, $117^{\circ} 9'$. In city of San Diego, Cal. Post-office, telegraph, railroad station, and boat landing, San Diego. Reservation, 2 blocks, 200 by 300 each, and wharf lot, 75 by 1,000. Jurisdiction ceded to United States. Accommodations for 1 company infantry. Water from San Diego Water Company. Sewer system, connected with city sewers.

Sandy Hook, Fort at, N. J.—Latitude, $40^{\circ} 25'$; longitude, $74^{\circ} 1'$. Post-office, New York City; distance, 22 miles. Telegraph, railroad station, and steamboat landing at Sandy Hook; distance, 2 miles. Reservation, about 1,366 acres. Jurisdiction ceded to United States. Water obtained from wells. Not garrisoned. In charge of ordnance sergeant.

San Juan Island, Wash.—Latitude, $48^{\circ} 37'$; longitude, 123° . In Archipelago de Haro, between the mainland of the State of Washington and Vancouver Island. Reservation, about 640 acres. Jurisdiction not ceded to United States.

San Pedro, Cal.—Latitude, $33^{\circ} 40'$; longitude, $118^{\circ} 40'$. In San Pedro Bay. Reservation, 44.25 acres, more or less.

Scammel, Fort, Me.—Latitude, $43^{\circ} 39'$; longitude, $79^{\circ} 13'$. In Portland Harbor, 2 miles from Portland, which is the post-office, telegraph, and railroad station. Reservation, 11 acres. Jurisdiction ceded to United States. Not garrisoned. In charge of ordnance sergeant.

Schuyler, Fort, N. Y.—Latitude, $40^{\circ} 49'$; longitude, $73^{\circ} 48'$. On Throgs Neck, $3\frac{1}{2}$ miles from West Chester, and 17 miles from New York City. Post-office, telegraph, and railroad station, West Chester, N. Y. Reservation, 52 acres. Cession of jurisdiction, none or doubtful. State act of March 31, 1815, apparently authorizes cession to be made by commissioners' deed, but no record of deed is found. State act of May 7, 1880, cedes as to water-covered lands only. Accommodations for 9 officers and 2 batteries artillery. Water supply from New York and West Chester Water Company. Sewer system.

Schuylkill Arsenal, Pa.—General depot, quartermaster Department. Latitude, 40° ; longitude, 75° . Within limits of the city of Philadelphia, which is the post-office and telegraph station. Reservation, $8\frac{1}{2}$ acres. Jurisdiction ceded to United States. Water supplied by Philadelphia Water Company.

Sequoia National Park, Cal. (camp at Mineral King).—Post-office, Three Rivers, Cal. Telegraph station, Visalia, Cal. Private conveyance to camp from Exeter Station, 48 miles, on Southern Pacific Railroad.

Sewall, Fort, Mass.—Latitude, $42^{\circ} 30'$; longitude, $70^{\circ} 33'$. Situated $1\frac{1}{2}$ miles from Marblehead, which is the post-office, telegraph, and railroad station. Reservation, small tract and in litigation. Not garrisoned. In charge of town of Marblehead, Mass., by authority of act of Congress (Public, No. 19 of 1890).

Sheridan, Fort, Ill.—Latitude, $42^{\circ} 11'$; longitude, $89^{\circ} 30'$. At town of Highwood, on Chicago and Northwestern Railroad, 24 miles north of Chicago. Post-office, telegraph, and railroad station at post. Reservation, 632 $\frac{1}{2}$ acres. Jurisdiction ceded to United States. Accommodations for 49 officers, 2 light batteries, 2 troops cavalry, and 8 companies infantry. Water supply pumped from Lake Michigan into reservoir of 100,000 gallons capacity, thence distributed. Sewer system.

Sherman, Fort, Idaho.—Latitude, $47^{\circ} 42'$; longitude, $116^{\circ} 38'$. Four hundred and eighty-eight miles from Vancouver Barracks, Wash. On Cœur d'Alene Lake, at its outlet. Spokane River, one-half mile from the Cœur d'Alene branch of Northern Pacific Railroad. Post-office, Sherman; telegraph and railroad station, Cœur d'Alene, Idaho. Reservation, 688.65 acres. Jurisdiction ceded to United States.

Accommodations for 18 officers, 1 troop cavalry, 4 companies infantry, and band. Water pumped from Spokane River into a tank of 23,500 gallons capacity, thence distributed. No sewer system.

Ship Island, Fort at, Miss.—Latitude, $30^{\circ} 20'$; longitude, $89^{\circ} 7'$. Situated 15 miles from Biloxi, which is on the Louisville and Nashville Railroad. Post-office, telegraph, and railroad station, Biloxi, Miss. Special boat to post. No cession of jurisdiction. Not garrisoned. In charge of ordnance sergeant.

Sill, Fort, Okla.—Latitude, $34^{\circ} 40'$; longitude, $98^{\circ} 23'$. On Medicine Bluff Creek, 65 miles from Henrietta, Tex., on Denver and Fort Worth Railroad. Post-office and telegraph station at post. Daily stage, except Sunday, from Rush Springs, Ind. T., on the Chicago, Rock Island and Pacific Railroad, distant 27 miles. On Indian lands, 36 square miles reserved. In addition to which General Order 43, 1892, sets aside a wood reserve of 26,880 acres. Accommodations for 20 officers, 8 companies cavalry, and band. Water raised by steam pump from a reservoir fed by springs on Medicine Bluff Creek and distributed from 3 tanks of total capacity of 52,000 gallons by a system of pipes. Sewer system.

Snelling, Fort, Minn.—Latitude, $44^{\circ} 53'$; longitude, $93^{\circ} 11'$. At junction of Minnesota and Mississippi rivers, on Chicago, Milwaukee and St. Paul Railroad, 7 miles from St. Paul, and 8 miles from Minneapolis by the course of the river. Post-office, telegraph and railroad stations at the post. Electric railroad from St. Paul to post. Reservation, 1,531.21 acres. Jurisdiction ceded to United States. Accommodations for 36 officers and 8 companies infantry. Water pumped from a spring by steam pump and distributed from reservoir of 50,000 gallons capacity. Sewer system. G. O. 34 of 1894 discontinues ordnance depot and turns buildings over to Quartermaster Department.

Spokane, Fort, Wash.—Latitude, $47^{\circ} 50'$; longitude, $118^{\circ} 18'$; 537 miles from Vancouver Barracks. On the Spokane River, three-fourths of a mile from its junction with the Columbia, near Miles, Wash., 25 miles from Davenport and 50 miles from Sprague, on Northern Pacific Railroad. Post-office and telegraph station, Miles, Wash. Daily stage, except Sunday, from Davenport. Reservation, 640 acres. Jurisdiction ceded to United States. Accommodations for 19 officers, 1 troop cavalry, and 4 companies infantry. Water pumped from Spokane River into a reservoir of 150,000 gallons capacity, except that for drinking purposes, which is supplied from a spring to a reservoir of 61,600 gallons capacity, thence distributed. Sewer system.

Stanton, Fort, N. Mer.—Latitude, $33^{\circ} 30'$; longitude, $105^{\circ} 32'$. On Rio Bonito, Lincoln County, 8 miles from Lincoln, 100 miles from Carthage, and 108 miles from San Antonio, on Atchison, Topeka and Santa Fe Railroad. Post-office and telegraph station at post. Daily stage from Carthage. Reservation, 16 square miles. Accommodations for 13 officers, 3 troops cavalry, 2 companies infantry. Water pumped from well about 100 feet from Rio Bonito and distributed from 2 reservoirs of 40,000 gallons total capacity. Partial sewer system.

Sterens, Fort, Oreg.—Latitude, $46^{\circ} 31'$; longitude, $125^{\circ} 1'$. On Point Adams, Columbia River, 7 miles from Astoria and 105 from Portland. Post-office, telegraph station, Astoria, Oreg., telephone to post. Steamer daily from railroad station, Portland to Astoria, thence by steam tug daily, except Sunday, to post. Reservation, 640 acres. No cession of jurisdiction. Not garrisoned. Transferred to Engineer Department and in charge of ordnance sergeant. Four sets officers' quarters and 1 barrack.

Sumter, Fort, S. C.—Latitude, $32^{\circ} 45'$; longitude, $79^{\circ} 51'$. In Charleston Harbor, 5 miles from Charleston. Post-office, Moultrieville, S. C. Telegraph and railroad station, Charleston. Reservation, about 125 acres. Jurisdiction ceded to United States. Not garrisoned. In charge of ordnance sergeant.

Taylor, Fort, Fla.—Latitude, $24^{\circ} 33'$; longitude, $81^{\circ} 49'$. Near Whitehead Point, 1 mile from Key West, which is the post-office, telegraph station, and boat landing. Reservation, 62.89 acres. Jurisdiction ceded to United States. Not garrisoned. In charge of ordnance sergeant.

Thomas, Fort, Ky.—Latitude, $39^{\circ} 5'$; longitude, $84^{\circ} 29'$; 3 miles from Newport, on highlands overlooking the Ohio River, 4 miles from Cincinnati. Post-office, telegraph and railroad station, Newport. Reservation, 111 acres 2 roods 39 poles. Rifle range, 169 acres. Jurisdiction ceded to United States. Accommodations for 29 officers, 8 companies infantry, and band. Water supplied by Covington city waterworks. Sewer system.

Trumbull, Fort, Conn.—Latitude, $41^{\circ} 21'$; longitude, $72^{\circ} 6'$. On right bank of the Thames River, 1 mile below city of New London, which is the post-office, telegraph and railroad station. Reservation, 13½ acres. Jurisdiction ceded to United States. Accommodations for 4 officers in cottages and 4 in casemates, 1 battery of artillery. Water supply from New London city waterworks. Sewer system.

Vancouver Barracks, Wash.—Latitude, $45^{\circ} 40'$; longitude, $125^{\circ} 32'$. On north bank of the Columbia River. Daily boat from Portland, distance 18 miles, or by ferries and electric line, distance 6 miles. Telegraph station at post. Post-office and steamboat landing at Vancouver. Railroad station, Portland, Oreg. Reservation, 640 acres.

Jurisdiction ceded to United States. Accommodations for 26 officers, 1 troop cavalry, 8 companies infantry, and band. Accommodations for 12 officers at department headquarters. Water pumped from an artesian well to a reservoir of 525,000 gallons capacity and a tank of 66,000 gallons capacity, thence distributed by gravity. Sewer system. General Order 34 of 1894 discontinues ordnance depot and turns buildings over to Quartermaster's Department.

Wadsworth, Fort, N. Y. Harbor.—Latitude, $40^{\circ} 37'$; longitude, $74^{\circ} 3'$. On Staten Island, commanding The Narrows, entrance to New York Harbor. Post-office, Rosebank, Staten Island, N. Y. Telegraph station, Quarantine, Clifton, Staten Island. Railroad station, St. George, N. Y. Reservation, about 100 acres. Additional lands recently purchased, General Order 19, 1895. Jurisdiction ceded to United States. Accommodations for 15 officers and 3 batteries of artillery. Water supply from Crystal Water Company. Sewer system.

Walla Walla, Fort, Wash.—Latitude, $46^{\circ} 6'$; longitude, $118^{\circ} 24'$; 231 miles from Vancouver Barracks and 1 mile from Walla Walla, on Oregon Railroad and Navigation Company's line. Post-office, telegraph and railroad station, Walla Walla, Wash. Reservation, about 613 acres. Jurisdiction ceded by United States. Accommodations for 16 officers, 2 troops cavalry, and 4 companies infantry. Water from springs on leased ground $1\frac{1}{4}$ miles from post, conducted to a reservoir of 7,000 gallons capacity, thence distributed by gravity, there being another reservoir at the post of 85,000 gallons capacity for fire protection. Sewer system.

Warren, Fort, Mass.—Latitude, $42^{\circ} 19'$; longitude, $70^{\circ} 59'$. On Georges Island, in Boston Harbor, 7 miles from Boston. Post-office and telegraph station, Boston. Daily steamer. Reservation, the whole island, about 18 acres. Jurisdiction ceded to United States. Accommodations for 3 officers in cottages, 8 officers in casemates, and 2 batteries artillery. Water supply from 10 cisterns and 4 wells, also by connection with Boston mains. Sewer system.

Washakie, Fort, Wyo.—Latitude, $42^{\circ} 59'$; longitude, $108^{\circ} 54'$. On Little Wind River, 172 miles from Casper and 147 miles from Rawlins, on Union Pacific Railroad. Post-office and telegraph station at the post. Daily stage from Rawlins. Stage twice a week from Casper. Reservation, 1,405 acres, on Indian lands. Jurisdiction ceded to United States. Accommodations for 9 officers, 1 troop cavalry, 2 companies infantry. Water pumped to tank of 10,000 gallons capacity by steam power from south fork of Little Wind River, and distributed by iron pipes. No sewer system.

Washington Barracks, D. C.—Latitude, $38^{\circ} 53'$; longitude, $77^{\circ} 3'$. On Greenleaf Point, Potomac River, District of Columbia. Post-office, telegraph, and railroad station, Washington, D. C. Reservation, about 69 acres. Jurisdiction ceded to United States. Accommodations for 24 officers, 1 light battery, 4 batteries artillery, and band. Water from Washington city waterworks, owned by the United States. Sewer system.

Washington, Fort, Md.—Latitude, $38^{\circ} 41'$; longitude, $77^{\circ} 6'$. On Potomac River, 13 miles from Washington, D. C. Post-office at post. Telegraph and railroad station, Alexandria, Va. Steamboat from Washington. Reservation, about 50 acres. Jurisdiction ceded to United States. Not garrisoned. In charge of an ordnance sergeant.

Wayne, Fort, Mich.—Latitude, $42^{\circ} 23'$; longitude, $82^{\circ} 58'$. On Detroit River, 4 miles from city hall in Detroit, which is the post-office and telegraph station. City railway to post. Reservation, about 63 acres. Jurisdiction ceded to United States. Accommodations for 15 officers, 4 companies infantry, and band. Water from Detroit city waterworks. Sewer system.

West Point, N. Y.—Latitude, $41^{\circ} 23'$; longitude, $74^{\circ} 41'$. On west bank of the Hudson River, 51 miles above New York City. Post-office, telegraph and railroad station west shore at the post. Reservation, 2,330 acres. Jurisdiction ceded to United States. United States Military Academy. Accommodations for 50 officers; 5 barracks. Water piped from springs by gravity and distributed from reservoir through iron pipes. Sewer system.

Whipple Barracks, Ariz.—Latitude, $24^{\circ} 33'$; longitude, $112^{\circ} 27'$. On S. F., P. and P. R. R. One mile from Prescott, Ariz. Post-office and railroad station at post. Telegraph station, Prescott. Reservation, about 1,730 acres. Accommodations for 20 officers, 1 troop cavalry, and 4 companies infantry. Water pumped from a well on Granite Creek to a reservoir of 80,000 gallons capacity; thence distributed by iron pipes. Sewer system.

Willels Point, N. Y.—Latitude, $40^{\circ} 47'$; longitude, $73^{\circ} 47'$. On East River, $2\frac{1}{4}$ miles from Whitestone, Queens County, 17 miles from New York City. Post-office and telegraph station at post. Railroad station, Whitestone, N. Y. Reservation, about 136.35 acres. Jurisdiction ceded to United States. Engineer station. Accommodations: 11 sets officers' quarters, 12 bachelors, 3 companies. Water from Flushing village waterworks. Sewer system.

Winfield Scott, Fort, Cal.—Latitude, $37^{\circ} 49'$; longitude, $122^{\circ} 48'$. Golden Gate, San Francisco, Cal. Post-office and telegraph station, the Presidio of San Francisco. Railroad station, San Francisco. On the Presidio Reservation. Not garrisoned.

Wingate, Fort, N. Mex.—Latitude, $35^{\circ} 29'$; longitude, $108^{\circ} 32'$. Situated at Bear Spring, 3 miles from Wingate, on the Atlantic and Pacific Railroad, which is the railroad station. Post-office and telegraph station at the post. Reservation, 130 square miles. Accommodations for 22 officers and 8 troops cavalry. Water pumped from Bear Springs into 2 reservoirs of 223,000 gallons total capacity; thence distributed. Sewer system.

Winthrop, Fort, Mass.—Latitude $42^{\circ} 21'$; longitude, $70^{\circ} 1'$. On Governors Island, Boston Harbor, 2 miles from Boston, which is the post-office, telegraph and railroad station. Steamboat to post. Reservation, about 60 acres. Jurisdiction ceded to United States. Not garrisoned. In charge of ordnance sergeant.

Wood, Fort, N. Y.—Subpost of Fort Columbus. Latitude, $40^{\circ} 41'$; longitude, $74^{\circ} 11'$. On Bedloe Island, in New York Harbor, 3 miles from New York City, which is the post-office, railroad and telegraph station. Reservation, about 12 acres. Jurisdiction ceded to United States. Accommodations for 4 officers and 1 company of infantry. Water supply, cisterns. Sewer system.

Yates, Fort, N. Dak.—Latitude, $46^{\circ} 11'$; longitude, $100^{\circ} 34'$; 60 miles from Bismarck (on the Northern Pacific Railroad), which is the railroad station, and 445 miles from St. Paul. Post-office and telegraph station at post. Daily stage, except Sunday, from Bismarck; river crossed by ferry. Reservation, 1 square mile, on Indian lands. Jurisdiction ceded to United States. Accommodations for 19 officers, 2 troops cavalry, 4 companies infantry. Water pumped by steam power from 12 driven wells to 2 tanks of 30,000 gallons capacity each; thence distributed. Surface drainage.

Yellowstone, Fort, Wyo.—Latitude, $40^{\circ} 58'$; longitude, $102^{\circ} 39'$. On Beaver Creek, 8 miles from Cinnabar, on Yellowstone Park line of Northern Pacific Railroad, 1,058 miles from St. Paul. During winter trains run on this branch line Saturdays only. Post-office and telegraph station, Mammoth Hot Springs, Wyo. Old reservation, 25 square miles; new, 22.5 acres set aside by the Secretary of the Interior for use of military authorities. Additional tract of about 5.5 acres set aside for hospital site by Secretary of Interior May 11, 1893. Exclusive jurisdiction in United States reserved by Congress. Accommodations for 4 officers and 1 troop cavalry at new post; 2 officers and 1 troop cavalry at old post. Water supply from Clematis Springs, dammed up to supply post through water-supply system. Partial sewer system.

Yerba Buena Island, Cal.—Latitude, $37^{\circ} 49'$; longitude, $120^{\circ} 27'$. Two and one-half miles northeast of San Francisco, Cal. Reservation, the whole island, about 120 acres. Jurisdiction ceded to United States. General Order 59, of 1892, transferred reservation to the Engineer Department, for use and occupation as a torpedo station for the Pacific coast.

Yosemite National Park, camp in, Cal.—Post-office and telegraph station, Wawona, Cal.; railroad station, Raymond, via Berenda station, on Southern Pacific Railroad, distance 40 miles; triweekly stage to camp.

WAR DEPARTMENT,
QUARTERMASTER-GENERAL'S OFFICE,
Washington, D. C., August 1, 1895.

GENERAL: I have the honor to report the operations of the mail and record division for the fiscal year ended June 30, 1895:

MAIL AND RECORD DIVISION.

The orders of the Secretary of War of May 15, 1894, instituting the card-record system for keeping the records of the War Department from July 1, 1894, did not materially affect this office, as practically the same system of records had been adopted and in successful use since November 15, 1890.

A precedent file has been established, and the other provisions of the order have been complied with.

The following communications were received, and letters and indorsements mailed:

Original cases.....	14, 344
Received-backs	28, 490
Letters and indorsements mailed.....	49, 052

An increase of about $12\frac{1}{2}$ per cent over the previous year's business.

MISCELLANEOUS CLAIMS AND ACCOUNTS.

July 1, 1894, there were awaiting action:

12 miscellaneous claims.....	\$2,829.00
7 accounts.....	786.71

Received:

181 miscellaneous claims.....	46,386.12
255 accounts.....	13,515.68

Total (455 claims and accounts).....	<u>63,517.51</u>
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Upon these final action was as follows:

9 claims approved for payment.....	359.74
121 claims sent to Treasury Department.....	25,206.30
4 claims referred to other departments.....	592.62
Deduction upon claims approved and referred.....	5,096.77
44 disallowed claims.....	10,746.19
206 accounts approved for payment.....	3,711.85
Reduction upon accounts approved.....	897.32
42 accounts referred to other departments.....	9,320.17
10 disallowed accounts.....	204.98

Total upon which final action was taken (178 claims and 258 accounts—436 in all)	<u>56,135.94</u>
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July 1, 1895, there were awaiting action:

15 claims.....	7,213.50
4 accounts.....	168.07

Total (19 claims and accounts).....	<u>7,381.57</u>
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An increase of 13 per cent over the previous year's business.

CLAIMS UNDER THE ACT OF JULY 4, 1864.

July 1, 1894, there remained 97 claims presented to this office under provisions of this act, amounting to \$120,668.37, which were previously suspended awaiting additional evidence. This is their present status.

The papers on file in 26 claims, amounting to \$75,978.13, which had previously been investigated and disallowed by this office for want of proof as to loyalty of claimants or evidence that stores were actually taken and used by the Army, were transmitted to the Court of Claims or to the Department of Justice, as required, for use as evidence.

NEWSPAPERS AND PERIODICALS FOR MILITARY POST LIBRARIES.

One hundred and ten military post libraries were supplied with newspapers and periodicals (192 daily, 648 weekly and semiweekly, 247 monthly, 11 bi-monthly, and 6 quarterly publications), at cost of \$3,586.68. There were 394 companies (or detachments) at the stations supplied.

PRINTING AND BINDING.

Four hundred and forty-two requisitions for necessary printing and binding were issued on the Public Printer, at a cost of \$2,024.98 for the work done. This amount does not include the work done by the War Department branch of the Government Printing Office.

NATIONAL CEMETERIES.

The 83 national cemeteries are classified as follows:

First class.....	25
Second class.....	20
Third class.....	16
Fourth class.....	22

The interments are:

Known	183, 946
Unknown.....	150, 507
Total	334, 453

There are 73 superintendents; changes during the year, 2 appointed and 1 vacancy caused by death. Two assistant superintendents, now on probation, will soon be eligible for appointment, thus completing the authorized number, 75.

Removals of remains of officers and enlisted men from abandoned post cemeteries and elsewhere to other permanent post or national cemeteries were as follows:

From—	To—	Total number of reinterments.
Newberry, S. C.....	National cemetery, Florence, S. C.....	3
Fort McKinney, Wyo.....	National cemetery, Custer battlefield, Montana.....	61
Fort Bowie, Ariz.....	National cemetery, San Francisco, Cal.....	75
Fort Supply, Okla.....	National cemetery, Fort Leavenworth, Kans.....	68
Fort Sully, S. Dak.....	do.....	64
Philadelphia, Pa. (Machpelah Cemetery).	National cemetery, Philadelphia, Pa.....	15
Fort McHenry, Md.....	National cemetery, Loudon Park, Md.....	297
Santa Fe, N. Mex. (old Masonic burial ground).	National cemetery, Santa Fe, N. Mex.....	47
Hatton, Ala.....	National cemetery, Corinth, Miss.....	2
Fort Ontario, N. Y.....	Post cemetery, Madison Barracks, N. Y.....	1
Total		633

Instructions have also been given for the removal of the remains of soldiers of the Mexican and civil wars from the Military Asylum lot and from Greenwood Island, East Pascagoula, Miss., to the national cemetery at Mobile, Ala.

Lodges and outbuildings.—The stone lodge for the superintendent at Custer Battlefield National Cemetery, Montana, has been completed, and contract made for a stone outbuilding. A two-room brick addition to the lodge in the Jefferson Barracks (Mo.) and a small brick outbuilding in the Jefferson City (Mo.) national cemeteries have been constructed. Contracts have also been made for the construction of a superintendent's lodge and an outbuilding, both of stone, in the national cemetery at Santa Fe, N. Mex.; for a brick outbuilding at the Memphis (Tenn.) and a frame outbuilding at the Mill Springs (Ky.) national cemeteries. Proposals have been invited for the construction of a brick outbuilding at the national cemetery at Shiloh, Tenn.

Flagstaffs.—In the Soldiers' Home (D. C.) National Cemetery an iron flagstaff, 100 feet in length, has been erected. Similar staffs, 75 feet each in length, were erected in the Camp Butler (Ill.) and Fort Smith (Ark.) national cemeteries.

Headstones.—To mark the graves of Union soldiers, sailors, and marines buried in national, post, city, and village cemeteries, 7,340 white

marble headstones were provided. Arrangements have been made for locating and marking the graves of 20 Union soldiers buried in the Baptist church yard, Aiken, S. C.

Roadways.—The draining and repairing of the road to the Hampton (Va.) National Cemetery, authorized by acts of Congress, still awaits the action of the board of supervisors of Elizabeth City County.

Under acts of Congress (sundry civil) making appropriations for "repairing roadways to national cemeteries," repairs have been made to roadways leading to the national cemeteries at Alexandria, Va., Antietam, Md., Baton Rouge, La., Chattanooga, Tenn., Corinth, Miss., Culpeper, Va., Fayetteville, Ark., Florence, S. C., Fredericksburg, Va., Marietta, Ga., Mound City, Ill., Natchez, Miss., Newbern, N. C., Port Hudson, La., Richmond, Va., Springfield, Mo., Staunton, Va., and Vicksburg, Miss. Amount expended, \$19,454.88.

Monuments and tablets.—The work of marking the positions occupied by the Regular Army on the Gettysburg battlefield, and constructing the approaches thereto, has been completed, so far as pertained to the Quartermaster's Department.

The unexpended balance of the appropriation remaining in the Treasury September 27, 1894, was \$2,892.17.

Under the order of the Secretary of War dated September 27, 1894, any additional work under that appropriation was intrusted to the Gettysburg Battlefield Commission.

Indigent soldiers.—Under Congressional authority, making appropriations "for expenses of burying in the Arlington National Cemetery, or in the cemeteries of the District of Columbia, indigent ex-Union soldiers, sailors, and marines of the late civil war who die in the District of Columbia," for the burial of 45 such persons, a total cost of \$1,664.50 has been incurred.

Improvements and repairs of national cemeteries.—At Arlington, Va., repairs were made to the mansion, outbuildings, water supply, drainage, drives, walks, and burial sections. The asphalt driveway has been completed and the improvement of the ground in the new addition to the cemetery continued; a new driveway has been made from a point near the McClellan gateway to one near the southeastern gateway in the addition, and contracts closed for the construction of an additional driveway from a point west of the gravel pit in the addition connecting with the driveway above mentioned.

At Alexandria, Va., repairs have been made and the old water-supply pipe has been replaced by a new 2-inch cast-iron service pipe, which connects with the city supply.

At Baton Rouge, La., repairs were made to the lodge and outbuildings and an ample water supply secured by connection with the city service.

At Brownsville, Tex., the levee constructed in 1891 for the protection of the cemetery from overflow of the Rio Grande has been repaired, also the wire fence inclosing the cemetery and the water-supply pipe connecting with the Fort Brown, Tex., waterworks.

At Camp Butler, Ill., repairs were made to the lodge, outbuildings, and inclosing wall, a new iron flagstaff erected, and the water supply increased by the addition of a well.

At Custer Battlefield, Mont., a superintendent's lodge was erected and water supply provided by the construction of a cistern (6,000 gallons).

At Finns Point, N. J., 100 cubic yards of stone riprap were placed at the northwest corner of the cemetery as a protection to the foundation

of the inclosing wall from high water; a bulkhead of timber, backed with earth (320 feet in length), was built along the north side of the cemetery to protect the grounds from overflow.

At Fort Gibson, Ind. T., repairs were made and water supply increased by constructing an additional cistern (6,000 gallons).

At Mobile, Ala., repairs were made, the grounds improved, and the flagstaff provided with a new topmast.

A contract was made for rebuilding the brick-inclosing wall on the south front and extending it to include a strip of land 15 feet in width by 384 feet in length, which was donated to the United States by the city of Mobile.

At Nashville, Tenn., a new windmill was erected and repairs made to the water supply.

At Philadelphia, Pa., repairs were made to the mansion, grounds, drives, and walks, and the drainage was thoroughly repaired and improved.

At San Antonio, Tex., the lodge was repaired and new tile drains put in.

At Santa Fe, N. Mex., the national cemetery (formerly the post cemetery, Fort Marcy) was surveyed and plans prepared for its improvement. Contracts were made for the construction of a stone-inclosing wall with ornamental iron drive and walk gates, for the grading and drainage of grounds, the erection of a superintendent's lodge and the necessary outbuilding and flagstaff, and for the introduction of water from the city supply.

At Stones River, Tenn., repairs were made to the lodge and outbuildings, the cistern near the stable was reconstructed, and a new pump supplied. Contract was made for rebuilding the stone wall inclosing the "Hazen Brigade Monument" lot near that cemetery.

At Woodlawn, Elmira, N. Y., a portion of the retaining wall along the creek forming the southern boundary was rebuilt, and the picket fence, gate, and flagstaff repainted.

At the other national cemeteries necessary repairs have been made and the grounds cared for.

Statement showing expenditures is submitted herewith (marked A); also a list of the national cemeteries (marked B) showing class, location, size, etc.

Very respectfully,

OSCAR F. LONG,

Captain and Assistant Quartermaster, United States Army.

The QUARTERMASTER-GENERAL.

A.—A statement of disbursements of appropriations for national cemeteries during the fiscal year ended June 30, 1895.

Name of cemetery.	Amount.	Name of cemetery.	Amount.
Alexandria, La.....	\$618.36	Keokuk, Iowa.....	\$145.21
Alexandria, Va.....	903.13	Knoxville, Tenn.....	302.78
Andersonville, Ga.....	1,003.86	Lebanon, Ky.....	181.46
Annapolis, Md.....	310.07	Lexington, Ky.....	75.00
Antietam, Md.....	589.29	Little Rock, Ark.....	853.26
Arlington, Va.....	28,681.44	Loudon Park, Md.....	672.00
Balls Bluff, Va.....	25.00	Marietta, Ga.....	1,272.74
Barrancas, Fla.....	630.62	Memphis, Tenn.....	1,567.13
Baton Rouge, La.....	792.33	Mexico City, Mex.....	783.85
Battle Ground, D. C.....	88.35	Mill Springs, Ky.....	192.21
Beaufort, S. C.....	1,206.25	Mobile, Ala.....	620.88
Beverly, N. J.....	242.48	Mound City, Ill.....	506.34
Brownsville, Tex.....	1,069.36	Nashville, Tenn.....	2,585.29
Camp Butler, Ill.....	807.31	Natchez, Miss.....	846.23
Camp Nelson, Ky.....	438.92	New Albany, Ind.....	390.11
Cave Hill, Ky.....	79.95	Newbern, N. C.....	611.99
Chalmette, La.....	1,270.81	Philadelphia, Pa.....	1,414.99
Chattanooga, Tenn.....	2,835.43	Poplar Grove, Va.....	820.49
City Point, Va.....	593.74	Port Hudson, La.....	557.03
Cold Harbor, Va.....	163.16	Quincy, Ill.....	18.75
Corinth, Miss.....	1,217.32	Raleigh, N. C.....	352.67
Crown Hill, Ind.....	253.06	Richmond, Va.....	824.12
Culpeper, Va.....	4,663.63	Rock Island, Ill.....	295.50
Custer Battlefield, Mont.....	1,067.32	Salisbury, N. C.....	388.37
Cypress Hills, N. Y.....	100.00	San Antonio, Tex.....	455.97
Danville, Ky.....	344.75	San Francisco, Cal.....	983.51
Danville, Va.....	535.57	Santa Fe, N. Mex.....	416.49
Fayetteville, Ark.....	920.81	Seven Pines, Va.....	124.75
Finns Point, N. J.....	272.41	Shiloh, Tenn.....	1,097.44
Florence, S. C.....	419.12	Soldiers' Home, D. C.....	1,282.85
Fort Donelson, Tenn.....	752.44	Springfield, Mo.....	315.80
Fort Gibson, Ind. T.....	136.85	St. Augustine, Fla.....	75.00
Fort Harrison, Va.....	624.04	Staunton, Va.....	156.30
Fort Leavenworth, Kans.....	352.10	Stones River, Tenn.....	1,060.98
Fort McPherson, Nebr.....	333.74	Vicksburg, Miss.....	4,424.15
Fort Scott, Kans.....	658.14	Wilmington, N. C.....	292.15
Fort Smith, Ark.....	897.76	Winchester, Va.....	469.11
Fredericksburg, Va.....	796.60	Woodlawn, N. Y.....	156.00
Gettysburg, Pa.....	196.50	Yorktown, Va.....	148.24
Glendale, Va.....	361.48	Soldiers' lots.....	218.15
Grafton, W. Va.....	758.92	Miscellaneous.....	2,057.85
Hampton, Va.....	2,220.36		
Jefferson Barracks, Mo.....	513.97	Total.....	90,821.47
Jefferson City, Mo.....			

The balance of the appropriation (\$100,000) is placed to the credit of officers of the Quartermaster's Department, and is required for the payment of outstanding indebtedness.

B.—National cemeteries, showing class, location, size, number of interments, etc., to June 30, 1895.

Alexandria, La.—Third class, adjoining Pineville, the post-office, and near Alexandria, La., the railroad and telegraph station. Established 1867. Area, 8.24 acres; inclosed by brick wall. Water supplied by cistern and well; surface drainage. Brick 6-room lodge and outbuilding. No rostrum. Interments: 532 known, 772 unknown; total, 1304. Quartermaster, Atlanta, Ga., in charge.

Alexandria, Va.—Second class, at Alexandria, Va., the post-office, railroad and telegraph station. Established 1862. Area, 5½ acres; inclosed by stone wall. Water from city waterworks; surface and underground drainage. Six-room stone lodge; brick outbuilding. Octagonal rostrum. Interments: 3,410 known, 123 unknown; total, 3,533. Depot quartermaster, Washington, D. C., in charge.

Andersonville, Ga.—First class, about 1 mile from the village of Andersonville, the post-office. Railroad and telegraph station, Anderson, Ga. Established 1865. Area, 120 acres; 25 acres of which are inclosed by brick wall. Water supplied by cisterns; surface drainage. Six-room brick lodge and 2 brick outbuildings. Octagonal rostrum. Interments: 12,782 known, 923 unknown; total, 13,705. Quartermaster, Atlanta, Ga., in charge.

Annapolis, Md.—Third class, at Annapolis, Md., the post office, railroad and telegraph station. Area, 4½ acres; inclosed by stone wall. Established 1862. Water from city waterworks; surface and underground drainage. Six-room brick lodge

and outbuilding. Octagonal rostrum. Interments: 2,288 known, 204 unknown; total, 2,492. Depot quartermaster, Washington, D. C., in charge.

Antietam, Md.—First class, at Sharpsburg, Md., the post office. Railroad and telegraph station at Antietam, Md. Established 1865. Area, 11 acres, of which 9½ acres are inclosed by stone wall on 3 sides and iron fence on north side. Water supplied by 2 cisterns; underground and surface drainage. Six-room stone lodge and outbuilding. Rectangular rostrum. Interments: 2,872 known, 1,864 unknown; total, 4,736. Depot quartermaster, Washington, D. C., in charge.

Arlington, Va.—First class, about 2 miles from Georgetown, D., C., the telegraph station. The post-office is Fort Myer, Va., and railroad station, Washington, D. C. Established 1864. Area, 1,100 acres, 350 acres of which are inclosed by stone wall. Water supplied by cisterns, springs, and Fort Myer waterworks. Surface and underground drainage. Fourteen-room mansion and outbuildings of brick; receiving vault of stone and brick. Rectangular rostrum. Interments: 12,589 known, 4,349 unknown; total, 16,938. Depot quartermaster, Washington, D. C., in charge.

Balls Bluff, Va.—Fourth class, about 2 miles from Leesburg, Va., the post-office, railroad and telegraph station. Established 1865. Size 50 feet square, inclosed by stone wall. No superintendent; no buildings; no water supply. Interments: 1 known, 24 unknown; total, 25. Depot quartermaster, Washington, D. C., in charge.

Barrancas, Fla.—Third class, on military and naval reservation, about 8 miles from Pensacola, Fla., the nearest railroad station. Post-office and telegraph station at Warrington, Fla. Established 1867. Area, 8.56 acres, of which 7.10 are inclosed by brick wall. Water supplied by cisterns and wells. Surface drainage. Three-room brick lodge with 2-room frame addition; brick outbuilding. Octagonal rostrum. Interments: 862 known, 710 unknown; total, 1,572. Quartermaster, Atlanta, Ga., in charge.

Baton Rouge, La.—Second class, at Baton Rouge, La., the post-office, railroad and telegraph station. Established 1867. Area, 7½ acres; inclosed by brick wall. Water supplied by cistern, well, and city waterworks. Surface and underground drainage. Six-room brick lodge and outbuilding. No rostrum. Interments: 2,508 known, 532 unknown; total, 3,040. Quartermaster, Atlanta, Ga., in charge.

Battle Ground, D. C.—Fourth class, near Brightwood, D. C., the post-office. Telegraph station, Tacoma, D. C., and railroad station, Washington, D. C. Established 1864. Area, 1 acre; inclosed by stone wall. Water supplied by well. Surface and underground drainage. Six-room brick lodge; frame outbuilding. No rostrum. Interments: 43 known. Depot quartermaster, Washington, D. C., in charge.

Beaufort, S. C.—First class, at Beaufort, S. C., the post-office, railroad and telegraph station. Established 1868. Area, 64 acres, of which 29 acres are inclosed by brick wall. Water supplied by cistern and well. Surface drainage. Six-room brick lodge; two frame outbuildings. Octagonal rostrum. Interments: 4,775 known, 4,532 unknown; total, 9,307. Quartermaster, Atlanta, Ga., in charge.

Beverly, N. J.—Fourth class, at Beverly, N. J., the post-office, railroad and telegraph station. Established 1864. Area, 1 acre; inclosed by stone wall. Water supplied by cistern and city waterworks. Surface drainage. Six-room brick lodge; frame outbuilding. No rostrum. Interments: 164 known, 7 unknown; total, 171. Depot quartermaster, Philadelphia, Pa., in charge.

Brownsville, Tex.—Second class, 1 mile from Brownsville, Tex., the railroad and telegraph station. Post-office, Fort Brown, Tex. Established 1867. Area, 25½ acres, of which 6 are inclosed by wire fence. Water supplied by cistern and Fort Brown waterworks. Surface drainage. Six-room brick lodge; frame outbuilding. No rostrum. Interments: 1,463 known, 1,379 unknown; total, 2,842. Quartermaster, Atlanta, Ga., in charge.

Camp Butler, Ill.—Third class, about 2 miles from Riverton, Ill., the post-office, railroad and telegraph station. Established 1862. Area, 6 acres; inclosed by brick wall. Water supplied by cistern and well. Surface and underground drainage. Five-room brick lodge; brick outbuilding. No rostrum. Interments: 1,009 known, 355 unknown; total, 1,364. Depot quartermaster, St. Louis, Mo., in charge.

Camp Nelson, Ky.—Second class, 7 miles southwest of Nicholasville, Ky., the railroad and telegraph station. Post-office at Camp Nelson, Ky. Established 1866. Area, 9½ acres, of which 8½ acres are inclosed by stone wall. Water supplied by cistern. Surface and underground drainage. Six-room brick lodge; frame outbuilding. Octagonal rostrum. Interments: 2,455 known, 1,189 unknown; total, 3,644. Depot quartermaster, Jeffersonville, Ind., in charge.

Cave Hill, Ky.—Fourth class, within incorporated cemetery of same name at Louisville, Ky., the post-office, railroad and telegraph station. Established 1863. Area, 3.53 acres. Water supplied by cistern and city waterworks. Surface drainage. Six-room brick lodge; frame outbuilding. No rostrum. Interments: 3,442 known, 582 unknown; total, 4,024. Depot quartermaster, Jeffersonville, Ind., in charge.

Chalmette, La.—First class, about 3 miles from New Orleans, La., the railroad and telegraph station. The post-office is Arabi, La. Established 1864. Area, 13.60 acres,

of which 13 acres are inclosed by iron fence on front and rear and by brick wall on sides. Water supplied by cisterns. Surface drainage. Four room brick lodge; frame outbuilding. Rectangular rostrum. Interments: 6,944 known, 5,742 unknown; total, 12,686. Quartermaster, Atlanta, Ga., in charge.

Chattanooga, Tenn.—First class, at Chattanooga, Tenn., the post-office, railroad and telegraph station. Established 1863. Area, 129.53 acres, of which 75 acres are inclosed by stone wall. Water supplied by cisterns and well. Drainage, surface and underground. Six-room brick lodge; brick outbuilding. Rectangular rostrum. Interments: 8,117 known, 4,969 unknown; total, 13,086. Quartermaster, Atlanta, Ga., in charge.

City Point, Va.—Second class, at City Point, Va., the post-office, railroad and telegraph station. Established 1866. Area, 7.49 acres, of which 6.60 acres are inclosed by stone wall. Water supplied by cistern. Surface and underground drainage. Six-room stone lodge; brick outbuilding. No rostrum. Interments: 3,779 known, 1,379 unknown; total, 5,158. Depot quartermaster, Washington, D. C., in charge.

Cold Harbor, Va.—Third class, about 9 miles northeast from Richmond, Va., the railroad and telegraph station. Post-office, Cold Harbor, Va. Established 1866. Area, 1½ acres, of which 1½ acres are inclosed by brick wall. Water supplied by well. Surface and underground drainage. Six-room stone lodge; frame outbuilding. No rostrum. Interments: 672 known, 1,289 unknown; total, 1,961. Depot quartermaster, Washington, D. C., in charge.

Corinth, Miss.—First class, at Corinth, Miss., the post-office, railroad and telegraph station. Established 1866. Area, 20 acres, of which 18.33 are inclosed by brick wall. Water supplied by cistern and well. Surface and underground drainage. Six-room brick lodge; brick outbuilding. Octagonal rostrum. Interments: 1,790 known, 3,939 unknown; total, 5,729. Quartermaster, Atlanta, Ga., in charge.

Crown Hill, Ind.—Fourth class, within the incorporated cemetery at Indianapolis, Ind., the post-office, railroad and telegraph station. Established 1866. Area, 1.37 acres. No superintendent; no buildings. Interments: 680 known, 32 unknown; total, 712. Depot quartermaster, Jeffersonville, Ind., in charge.

Culpeper, Va.—Second class, at Culpeper, Va., the post-office, railroad and telegraph station. Established 1867. Area, 6 acres; inclosed by brick wall. Water supplied by cistern and well. Surface drainage. Six-room stone lodge; brick outbuilding. No rostrum. Interments: 456 known, 912 unknown; total, 1,368. Depot quartermaster, Washington, D. C., in charge.

Custer Battlefield, Mont.—Fourth class, about 13 miles southeast of Fort Custer, Mont., and 3 miles from Crow Agency, Mont., the post-office, railroad and telegraph station. Established 1879. Area, of reservation, 1 mile square; of cemetery, 6.91 acres; not inclosed. Water supplied by cistern. Surface drainage. Seven-room stone lodge; stone outbuilding. No rostrum. Interments: 807 known, 183 unknown; total, 990. Depot quartermaster, Washington, D. C., in charge.

Cypress Hills, N. Y.—First class, at Brooklyn, N. Y., the post-office, railroad and telegraph station. Established 1862. Upper cemetery within incorporated cemetery. Area, 2.75 acres; no inclosure. Lower cemetery fronting on Jamaica avenue and adjoining the Jewish Cemetery and reservoir. Area 15.39 acres, inclosed by iron fence in front, stone wall on north and west sides, and picket fence on east side. Water supplied by city waterworks. Surface and underground drainage. Eight-room brick lodge; brick outbuilding and receiving vault. Octagonal rostrum. Interments: 4,975 known, 373 unknown; total, 5,348. Depot quartermaster, New York City, in charge.

Danville, Ky.—Fourth class, within city cemetery of Danville, Ky. The post-office, railroad and telegraph station. Established 1862. Area, 0.31 acre; not inclosed. No water supply; no buildings. Interments: 349 known, 8 unknown; total, 357. Under supervision of Superintendent of Camp Nelson (Ky.) National Cemetery. Depot quartermaster, Jeffersonville, Ind., in charge.

Danville, Va.—Third class, at Danville, Va., the post-office, railroad and telegraph station. Established 1867. Area, 3.50 acres, of which 3.17 acres are inclosed by stone wall. Water supplied by cistern and city waterworks. Drainage, surface and underground. Six-room brick lodge; brick outbuilding. No rostrum. Interments: 1,175 known, 153 unknown; total, 1,328. Depot quartermaster, Washington, D. C., in charge.

Fayetteville, Ark.—Third class, at Fayetteville, Ark., the post-office, railroad and telegraph station. Established 1867. Area, 6.63 acres, of which 6 are inclosed by brick wall. Water supplied by cistern and well. Surface drainage. Six-room brick lodge; brick outbuilding. Octagonal rostrum. Interments: 445 known, 782 unknown; total, 1,227. Depot quartermaster, St. Louis, Mo., in charge.

Finns Point, N. J.—Fourth class, 6 miles from Salem, N. J., the post-office, railroad and telegraph station. Established 1875. Area, 2½ acres; inclosed by stone wall. Water supplied by cistern and well. Surface drainage. Six-room stone lodge; frame outbuilding. No rostrum. Interments: 106 known, 2,539 unknown; total, 2,645. Depot quartermaster, Philadelphia, Pa., in charge.

Florence, S. C.—Second class, at Florence, S. C., the post-office, railroad and telegraph station. Established 1865. Area, 3.76 acres; inclosed by brick wall. Water supplied by well. Surface and underground drainage. Three-room brick lodge; frame outbuilding. No rostrum. Interments: 212 known, 2,804 unknown; total, 3,016. Quartermaster, Atlanta, Ga., in charge.

Fort Donelson, Tenn.—Third class, at Dover, Tenn., the post-office. Nearest railroad station is North Stewart, 13 miles distant. Telegraph station, Erin, Tenn. Established 1867. Area, 15.34 acres, of which 5 are inclosed by stone wall. Water supplied by cisterns. Surface and underground drainage. Six-room brick lodge; frame outbuilding. Octagonal rostrum. Interments: 160 known, 511 unknown; total, 671. Quartermaster, Atlanta, Ga., in charge.

Fort Gibson, Ind. T.—Third class, 2 miles from Fort Gibson, the post-office, railroad and telegraph station. Established 1868. Area, 6.90 acres, of which 5.70 are inclosed by stone wall. Water supplied by 2 cisterns. Surface and underground drainage. Six-room stone lodge; frame outbuilding. No rostrum. Interments: 241 known, 2,212 unknown; total, 2,453. Depot quartermaster, St. Louis, Mo., in charge.

Fort Harrison, Va.—Fourth class, 8 miles from Richmond, Va., the railroad and telegraph station. Post-office, Varina Grove, Va. Established 1866. Area, 1.55 acres; inclosed by brick wall. Water supplied by well. Surface and underground drainage. Six-room stone lodge; frame outbuilding. No rostrum. Interments: 242 known, 575 unknown; total, 817. Depot quartermaster, Washington, D. C., in charge.

Fort Leavenworth, Kans.—Second class, at Fort Leavenworth, Kans., the post-office, railroad and telegraph station. Established 1861. Area, 15 acres; inclosed by stone wall. Water supplied by cisterns and post waterworks. Surface and underground drainage. Six-room stone lodge; brick outbuilding. Rectangular rostrum. Interments: 1,729 known, 1,445 unknown; total, 3,174. Depot quartermaster, St. Louis, Mo., in charge.

Fort McPherson, Nebr.—Fourth class, 4 miles from Maxwell, Nebr., the post-office, railroad and telegraph station. Established 1873. Area of cemetery reservation, 107 acres, of which 4.50 are inclosed by brick wall. Water supplied by cistern and river. Surface drainage. Six-room brick lodge; brick outbuilding. Octagonal rostrum. Interments: 473 known, 341 unknown; total, 814. Depot quartermaster, St. Louis, Mo., in charge.

Fort Scott, Kans.—Second class, at Fort Scott, Kans., the post-office, railroad and telegraph station. Established 1862. Area, 10.26 acres; inclosed by stone wall. Water supplied by cistern and well. Surface and underground drainage. Six-room brick lodge; frame outbuilding. Rectangular rostrum. Interments: 489 known, 177 unknown; total, 666. Depot quartermaster, St. Louis, Mo., in charge.

Fort Smith, Ark.—Second class, at Fort Smith, Ark., the post-office, railroad and telegraph station. Established 1867. Area, 15 acres; 9 acres inclosed by brick wall. Water supplied by cistern and city waterworks. Surface and underground drainage. Three-room stone lodge; brick outbuilding. Octagonal rostrum. Interments: 783 known, 1,150 unknown; total, 1,933. Depot quartermaster, St. Louis, Mo., in charge.

Fredericksburg, Va.—First class, at Fredericksburg, Va., the post-office, railroad and telegraph station. Established 1865. Area, 12 acres; inclosed by brick wall. Water supplied by cistern and well. Surface and underground drainage. Six-room stone lodge; brick outbuilding. Octagonal rostrum. Interments: 2,490 known, 12,795 unknown; total, 15,285. Depot quartermaster, Washington, D. C., in charge.

Gettysburg, Pa.—First class, at Gettysburg, Pa., the post-office, railroad and telegraph station. Established 1863. Area, 17 acres; inclosed on two sides by stone wall and two sides by iron fence. Water supplied by cistern, well, and city waterworks. Surface and underground drainage. Five-room stone lodge; brick outbuilding. Rectangular rostrum. Interments: 1,985 known, 1,612 unknown; total, 3,597. Depot quartermaster, Washington, D. C., in charge.

Glendale, Va.—Fourth class, at Glendale, Va., the post-office. Nearest railroad station, Elk Station; telegraph office, Roxbury, Va. Established 1866. Area, 2.12 acres; 2 inclosed by stone wall. Water supplied by cistern; surface and underground drainage. Six-room brick lodge, frame outbuilding. No rostrum. Interments: 238 known, 965 unknown; total, 1,203. Depot quartermaster, Washington, D. C., in charge.

Grafton, W. Va.—Fourth class, at Grafton, the post-office, railroad and telegraph station. Established 1867. Area, 3.40 acres; inclosed by stone wall. Water supplied by well. Surface and underground drainage. Six-room stone lodge; stone outbuilding. Octagonal rostrum. Interments: 637 known, 620 unknown; total, 1,257. Depot quartermaster, Washington, D. C., in charge.

Hampton, Va.—First class, at Hampton, the post-office, railroad and telegraph station. Established 1866. Area of old cemetery, 11.61 acres, inclosed by stone wall; area of new cemetery, 8 acres; inclosed by brick wall. Water supplied by cistern and well. Surface drainage. Six-room stone lodge; brick outbuilding. Octagonal ros-

trum. Interments: 6,653 known, 493 unknown; total, 7,146. Depot quartermaster, Washington, D. C., in charge.

Jefferson Barracks, Mo.—First class, at Jefferson Barracks, Mo., the post-office, railroad and telegraph station. Established 1863. Area, 50 acres; 20.50 inclosed by stone wall. Water supplied by cistern and post waterworks. Surface and underground drainage. Five-room brick lodge; 2-room brick office; brick outbuilding. Octagonal rostrum. Interments: 8,806 known, 2,906 unknown; total, 11,712. Depot quartermaster, St. Louis, Mo., in charge.

Jefferson City, Mo.—Third class, at Jefferson City, Mo., the post-office, railroad and telegraph station. Established 1867. Area, 2 acres; inclosed by stone wall. Water supplied by 2 cisterns and 1 well. Drainage, surface and underground. Six-room stone lodge; brick outbuilding; frame stable. No rostrum. Interments: 370 known, 411 unknown; total, 781. Depot quartermaster, St. Louis, Mo., in charge.

Keokuk, Iowa.—Third class, at Keokuk, Iowa, the post-office, railroad and telegraph station. Established 1861. Area, 2.75 acres; inclosed by iron fence. Water supplied by cistern. Surface and underground drainage. Six-room brick lodge; brick outbuilding. Octagonal rostrum. Interments: 661 known, 43 unknown; total, 704. Depot quartermaster, St. Louis, Mo., in charge.

Knoxville, Tenn.—Second class, at Knoxville, Tenn., the post-office, railroad and telegraph station. Established 1863. Area, 9.83 acres; inclosed by iron fence on east side and stone wall on other sides. Water supplied by cistern. Surface drainage. Six-room stone lodge; frame outbuilding. Rectangular rostrum. Interments: 2,149 known, 1,047 unknown, total, 3,196. Quartermaster, Atlanta, Ga., in charge.

Lebanon, Ky.—Fourth class, at Lebanon, Ky., the post-office, railroad and telegraph station. Established 1867. Area, 2.50 acres; 2.38 acres inclosed by stone wall. Water supplied by cistern and well. Surface and underground drainage. Six-room brick lodge; brick outbuilding. No rostrum. Interments: 592 known, 277 unknown; total, 869. Depot quartermaster, Jeffersonville, Ind., in charge.

Lexington, Ky.—Fourth class, within city cemetery of Lexington, Ky., the post-office, railroad and telegraph station. Established 1863. Area, 0.75 acre, not inclosed. No buildings. Interments: 840 known, 112 unknown, total, 952. Under supervision of superintendent of Camp Nelson (Ky.) National Cemetery. Depot quartermaster, Jeffersonville, Ind., in charge.

Little Rock, Ark.—First class, at Little Rock, Ark., the post-office, railroad and telegraph station. Established 1868. Area, 12.12 acres; inclosed by stone wall. Water supplied by cisterns. Surface and underground drainage. Six-room brick lodge; frame outbuilding. Octagonal rostrum. Interments: 3,349 known, 2,373 unknown, total, 5,722. Depot quartermaster, St. Louis, Mo., in charge.

Loudon Park, Md.—Second class, at Carroll, Md., the post-office and railroad station; near Baltimore, Md., the telegraph station. Established 1861. Area, 3.69 acres; inclosed by stone wall and iron fence. Water supplied by cistern and city waterworks. Surface and underground drainage. Six-room brick lodge; brick outbuilding. Octagonal rostrum. Interments: 2,262 known, 374 unknown; total, 2,636. Depot quartermaster, Washington, D. C., in charge.

Marietta, Ga.—First class, at Marietta, Ga., the post-office, railroad and telegraph station. Established 1866. Area, 24 acres, of which 21.5 acres are inclosed by stone wall. Water supplied by 2 wells. Surface and underground drainage. Six-room brick lodge; brick stable; 2 frame outbuildings. Rectangular rostrum. Interments: 7,199 known, 2,965 unknown; total, 10,164. Quartermaster, Atlanta, Ga., in charge.

Memphis, Tenn.—First class, 7 miles from Memphis, Tenn., the telegraph station; post-office and railroad station at Cemetery Station, Tenn. Established 1867. Area, 43.91 acres; 37 acres inclosed by brick wall. Water supplied by cistern and well. Surface and underground drainage. Six-room brick lodge and brick outbuilding. Octagonal rostrum. Interments: 5,172 known, 8,820 unknown; total, 13,992. Quartermaster, Atlanta, Ga., in charge.

Mexico City, Mexico.—First class, at Mexico, Mexico, the post-office, railroad and telegraph station. Established 1851. Area, 2 acres; inclosed by brick and stone wall. Water supplied by cistern, well, and city waterworks. Surface drainage. Nine-room brick and stone lodge; 1 outbuilding. No rostrum. Interments: 570 known, 750 unknown; total, 1,320. Depot quartermaster, Washington, D. C., in charge.

Mills Springs, Ky.—Third class, near Logans Cross Roads, Ky., 8 miles from Somerset, Ky., the telegraph and railroad station. The post-office is at Nancy, Ky. Established 1862. Area, 3.50 acres, of which 1.75 acres are inclosed by stone wall. Water supplied by cistern and well. Surface and underground drainage. Six-room brick lodge; frame outbuilding. No rostrum. Interments: 350 known, 366 unknown; total, 716. Depot quartermaster, Jeffersonville, Ind., in charge.

Mobile, Ala.—Second class, at Mobile, Ala., the post-office, railroad and telegraph station. Established 1865. Area, 3 acres; inclosed by brick wall. Water supplied

by cistern and well. Surface drainage. Six-room brick lodge; 1 brick outbuilding. Octagonal rostrum. Interments: 796 known, 116 unknown; total, 912. Quartermaster, Atlanta, Ga., in charge.

Mound City, Ill.—First class, at Mound City, Ill., the post-office, railroad and telegraph station. Established 1864. Area, 10.50 acres, of which 8 acres are inclosed by iron fence. Water supplied by 2 cisterns. Surface and underground drainage. Six-room brick lodge; brick outbuilding. Rectangular rostrum. Interments: 2,504 known, 2,763 unknown; total, 5,267. Depot quartermaster, St. Louis, Mo., in charge.

Nashville, Tenn.—First class, 6 miles north of Nashville, and 1½ miles from Madison, Tenn., the post-office, railroad and telegraph station. Established 1867. Area, 65 acres, of which 60.60 acres are inclosed by stone wall. Water supplied by cistern and well. Surface and underground drainage. Six-room stone lodge; stone outbuilding. Octagonal rostrum. Interments: 11,857 known, 4,701 unknown; total, 16,558. Quartermaster, Atlanta, Ga., in charge.

Natchez, Miss.—First class, at Natchez, Miss., the post-office, railroad and telegraph station. Established 1866. Area, 11 acres; inclosed by brick wall. Water supplied by three cisterns. Surface and underground drainage. Three-room lodge, 1-room office, and stable of brick; frame outbuilding. No rostrum. Interments: 332 known, 2,780 unknown; total, 3,112. Quartermaster, Atlanta, Ga., in charge.

New Albany, Ind.—Third class, at New Albany, Ind., the post-office, railroad and telegraph station. Established 1862. Area, 5.46 acres; inclosed by stone wall. Water supplied by cistern, well, and city waterworks. Surface and underground drainage. Six-room brick lodge; brick outbuilding. Rectangular rostrum. Interments: 2,192 known, 676 unknown; total, 2,868. Depot quartermaster, Jeffersonville, Ind., in charge.

Newbern, N. C.—Second class, at Newbern, N. C., the post-office, railroad and telegraph station. Established 1867. Area, 7.60 acres; inclosed by brick wall. Water supplied by cistern and well. Surface drainage. Six-room shell-rock lodge; shell-rock outbuilding. Octagonal rostrum. Interments: 2,212 known, 1,091 unknown; total, 3,303. Depot quartermaster, Washington, D. C., in charge.

Philadelphia, Pa.—Second class, at Germantown, Pa., the telegraph and railroad station. Post-office, Station D, Philadelphia, Pa. Established 1862. Area, 13.26 acres; inclosed by a stone wall. Water supplied by 2 wells. Surface and underground drainage. Seventeen-room brick mansion; frame outbuilding. Octagonal rostrum. Interments: 2,173 known, 185 unknown; total, 2,358. Depot quartermaster, Philadelphia, Pa., in charge.

Poplar Grove, Va.—Second class, 4½ miles from Petersburg, Va., the post-office, railroad and telegraph station. Established 1866. Area, 8.65 acres; inclosed by brick wall. Water supplied by well. Surface drainage. Six-room stone lodge; brick outbuilding. No rostrum. Interments: 2,199 known, 4,006 unknown; total, 6,205. Depot quartermaster, Washington, D. C., in charge.

Port Hudson, La.—Second class, at Port Hudson, La., the post-office and railroad station. Telegraph station is Baton Rouge, La. Established 1866. Area, 8 acres; inclosed by brick wall. Water supplied by 2 cisterns. Surface drainage. Six-room brick lodge; frame outbuilding. No rostrum. Interments: 592 known, 3,239 unknown; total, 3,831. Quartermaster, Atlanta, Ga., in charge.

Quincy, Ill.—Fourth class, a lot in Woodland Cemetery, at Quincy, Ill., the post-office, railroad and telegraph station. Established 1868. Area, 0.25 acre; not inclosed. No superintendent. No buildings. No water supply. Interments: 167 known, 55 unknown; total, 222. Depot quartermaster, St. Louis, Mo., in charge.

Raleigh, N. C.—Second class, at Raleigh, N. C., the post-office, railroad and telegraph station. Established 1866. Area, 7.83 acres, of which 6.90 are inclosed by brick wall. Water supplied by cistern. Surface drainage. Six-room brick lodge; frame outbuilding. Octagonal rostrum. Interments: 629 known, 572 unknown; total, 1,201. Quartermaster, Atlanta, Ga., in charge.

Richmond, Va.—First-class, at Richmond, Va., the post-office, railroad and telegraph station. Established 1866. Area, 8 acres, of which 7.50 are inclosed by stone wall. Water supplied by well. Surface and underground drainage. Six-room brick lodge; brick outbuilding. Octagonal rostrum. Interments: 851 known, 5,700 unknown; total, 6,551. Depot quartermaster, Washington, D. C., in charge.

Rock Island, Ill.—Fourth class, at Rock Island, Ill., the post-office, railroad and telegraph station. Established 1863. Area, 1 acre, inclosed by iron fence. Rectangular rostrum. No other buildings. Surface drainage. Interments: 288 known, 20 unknown; total, 308. Depot quartermaster, Washington, D. C., in charge.

Salisbury, N. C.—First-class, at Salisbury, N. C., the post-office, railroad and telegraph station. Established 1865. Area, 6 acres, inclosed by stone wall. Water supplied from a creek and cistern. Surface drainage. Six-room brick lodge; frame outbuilding. No rostrum. Interments: 102 known, 12,035 unknown; total, 12,137. Quartermaster, Atlanta, Ga., in charge.

San Antonio, Tex.—Third class, at San Antonio, Tex., the post-office, railroad and telegraph station. Established 1867. Area, 3.63 acres; inclosed by stone wall. Water supplied by cistern and city waterworks. Surface drainage. Six-room stone lodge; stone office; frame outbuilding. Octagonal rostrum. Interments: 966 known, 225 unknown; total, 1,191. Quartermaster, Atlanta, Ga., in charge.

San Francisco, Cal.—Fourth class, on reservation at Presidio, San Francisco, Cal., the post-office, railroad and telegraph station. Established 1884. Area, 9.50 acres; 7.25 inclosed by stone wall on 3 sides and iron fence on front. Water supplied by post waterworks. Surface and underground drainage. Six-room brick lodge; no outbuilding; no rostrum. Interments: 999 known, 397 unknown; total, 1,396. Depot quartermaster, San Francisco, Cal., in charge.

Santa Fe, N. Mex.—Fourth class, at Santa Fe, N. Mex., the post-office, railroad and telegraph station. Established 1875. Area, 9.35 acres; inclosed by stone wall and wire fence. Water supplied by city waterworks. Surface drainage. Seven-room stone lodge; stone outbuilding. No rostrum. Interments: 243 known, 360 unknown; total, 603. Depot quartermaster, Washington, D. C., in charge.

Seven Pines, Va.—Fourth class, at Seven Pines, Va., the post-office, and 8 miles from Richmond, Va., the telegraph station; railroad station, Oaks Station, Va., three-fourths mile distant. Established 1866. Area, 1.55 acres, of which 1.47 acres are inclosed by brick wall. Water supplied by cistern and well. Surface and underground drainage. Six-room brick lodge; frame outbuilding. No rostrum. Interments: 154 known, 1,226 unknown; total, 1,380. Depot quartermaster, Washington, D. C., in charge.

Shiloh, Tenn.—First class, at Pittsburg Landing, Tenn., the post-office; railroad and telegraph station at Corinth, Miss., 20 miles distant. Established 1866. Area, 10.05 acres, of which 9 acres are inclosed by stone wall. Water supplied by cistern and well. Surface and underground drainage. Six-room brick lodge; frame outbuilding. Octagonal rostrum. Interments: 1,236 known, 2,362 unknown; total, 3,598. Quartermaster, Atlanta, Ga., in charge.

Soldiers' Home, D. C.—First class, at Soldiers' Home, D. C., the post-office, and about 3 miles from Washington, D. C., the railroad and telegraph station. Established 1861. Area, 16 acres, inclosed by stone wall and iron fence. Water supplied by well and Soldiers' Home waterworks. Surface and underground drainage. Six-room stone lodge; brick outbuilding. Rectangular rostrum. Interments: 6,303 known, 293 unknown; total, 6,596. Depot quartermaster, Washington, D. C., in charge.

Springfield, Mo.—Third class, 4 miles from Springfield, Mo., the post-office, railroad and telegraph station. Established 1867. Area, 5 acres, of which 4.90 acres are inclosed by a stone wall and iron fence. Water supplied by cistern and well. Surface and underground drainage. Six-room brick lodge; frame outbuilding. Octagonal rostrum. Interments: 919 known, 734 unknown; total, 1,653. Depot quartermaster, St. Louis, Mo., in charge.

St. Augustine, Fla.—Fourth class, at St. Augustine, Fla., the post-office, railroad and telegraph station. Established 1881. Area, 0.58 acre, inclosed by concrete wall. No buildings. Surface drainage. Interments, 1,470 known. Quartermaster, Atlanta, Ga., in charge.

Staunton, Va.—Fourth class, at Staunton, Va., the post-office, railroad and telegraph station. Established 1867. Area, 1.15 acres; inclosed by stone wall. Water supplied by cistern. Surface drainage. Three-room brick lodge, with 3-room frame addition; frame outbuilding. No rostrum. Interments: 234 known, 527 unknown; total, 761. Depot quartermaster, Washington, D. C., in charge.

Stones River, Tenn.—First class, 3 miles from Murfreesboro, Tenn., the post-office, railroad and telegraph station. Established 1865. Area, 20.10 acres, of which 18.45 are inclosed by stone wall. Water supplied by 3 cisterns and well. Surface drainage. Six-room stone lodge; frame outbuilding. Rectangular rostrum. Interments: 3,817 known, 2,330 unknown; total, 6,147. Quartermaster, Atlanta, Ga., in charge.

Vicksburg, Miss.—First class, at Vicksburg, Miss., the post-office, railroad and telegraph station. Established 1865. Area, 40 acres, of which 34.50 are inclosed by brick wall. Water supplied by 4 cisterns, 1 well and creek. Drainage, surface and underground. Three-room lodge with kitchen addition, 4-room gardener's cottage, and office of brick; 4 frame outbuildings. Rectangular rostrum. Interments: 3,935 known, 12,721 unknown; total, 16,656. Quartermaster, Atlanta, Ga., in charge.

Wilmington, N. C.—Second class, at Wilmington, N. C., the post-office, railroad and telegraph station. Established 1867. Area, 5 acres, of which 4.50 acres are inclosed by brick wall. Water supplied by cisterns. Surface drainage. Six-room stone lodge; frame outbuilding. Octagonal rostrum. Interments: 717 known, 1,577 unknown; total, 2,294. Quartermaster, Atlanta, Ga., in charge.

Winchester, Va.—Second class, at Winchester, Va., the post-office, railroad and telegraph station. Established 1866. Area, 4.89 acres; inclosed by stone wall. Water supplied by cistern and well. Surface and underground drainage. Three-room stone

lodge; frame outbuilding. No rostrum. Interments: 2,099 known, 2,385 unknown; total, 4,484. Depot quartermaster, Washington, D. C., in charge.

Woodlawn, N. Y.—Fourth class, within incorporated cemetery of Elmira, N. Y., the post-office, railroad and telegraph station. Established 1874. Area, 2.36 acres; inclosed one side by picket fence, on other sides by hedge and creek. Surface drainage. No buildings. Interments: 3,068 known, 7 unknown; total, 3,075. Depot quartermaster, New York City, in charge.

Yorktown, Va.—Third class, at Yorktown, Va., the post-office; railroad and telegraph station is Lee Hall, Va., about 5½ miles distant. Established 1866. Area, 3 acres; inclosed by brick wall. Water supplied by cistern. Surface drainage. Six-room stone lodge; brick outbuilding. Octagonal rostrum. Interments: 750 known, 1,435 unknown; total, 2,185. Depot quartermaster, Washington, D. C., in charge.

**REPORT OF THE COMMISSARY-GENERAL
OF SUBSISTENCE.**

REPORT

OF THE

COMMISSARY-GENERAL OF SUBSISTENCE.

WAR DEPARTMENT,
OFFICE COMMISSARY-GENERAL OF SUBSISTENCE,
Washington, D. C., October 1, 1895.

SIR: I have the honor to submit the following report of the operations of the Subsistence Department for the fiscal year ending June 30, 1895:

RESOURCES AND EXPENDITURES.

The following statement exhibits the aggregate fiscal resources and expenditures of the Department for the year mentioned, and the balances at the close of the fiscal year:

RESOURCES.

Amounts in the Treasury to the credit of appropriations of the Subsistence Department on June 30, 1894, as follows:		
Subsistence of the Army, 1893.....	\$31, 273. 01	
Subsistence of the Army, 1894.....	995. 03	
Commutation of rations to prisoners of war in rebel States and soldiers on furlough:		
Certified claims, acts March 2, 1889, and April 4, 1890.....	2, 0	
Certified claims, 1893, act August 5, 1892.....	16, 445. 87	
Certified claims, 1894, act March 3, 1893.....	20, 396. 25	
		\$71, 156. 24
Amounts to credit of officers of the Subsistence Department and of officers doing duty in the Subsistence Department, with the Treasurer, assistant treasurers, and designated depositaries, and in their personal possession on June 30, 1894, as follows:		
Subsistence of the Army, 1894.....	76, 896. 7	
Commutation of rations to prisoners of war in rebel States and soldiers on furlough, certified claims, 1894, act March 3, 1893.....	944. 74	
		77, 841. 51
Amounts refunded to the Treasury near close of fiscal year 1894, since carried to the credit of the appropriations, as follows:		
Subsistence of the Army, 1893.....	3, 806. 00	
Subsistence of the Army, 1894.....	4, 217. 40	
		8, 023. 40
Amounts appropriated for the Subsistence Department for the fiscal year ending June 30, 1895, as follows:		
Subsistence of the Army, 1895, act of August 6, 1894.	1, 650, 000. 00	
Subsistence of the Army, 1895, act March 2, 1895....	25, 000. 00	

Amounts appropriated for the Subsistence Department for the fiscal year ending June 30, 1895—Continued.

Commutation of rations to prisoners of war in rebel States and soldiers on furlough, certified claims, 1895, act of August 18, 1894.....	\$15,000.00	
Subsistence of the Army, certified claims, act August 23, 1894	935.96	
Subsistence of the Army, certified claims, act March 2, 1895.....	224.58	
Twenty per cent additional compensation, act March 2, 1895.....	224.80	
Claims for quartermaster's stores and commissary supplies, act March 2, 1895.....	77.88	
	<hr/>	\$1,691,463.22

Amounts collected from various sources and refunded to the appropriations of the Subsistence Department on the books of the Treasury during the fiscal year 1895, as follows:

Subsistence of the Army, 1892 and prior years.....	225.91	
Subsistence of the Army, 1892 and prior years, transfer account	964.73	
Subsistence of the Army, 1893, transfer account....	7.75	
Subsistence of the Army, 1893.....	552.24	
Subsistence of the Army, 1894.....	1,518.60	
Subsistence of the Army, 1895.....	3,224.30	
Amount placed on books of Treasury, by war indefinite appropriation warrant—commutation of rations to prisoners of war in rebel States and soldiers on furlough—		
Certified claims, acts March 2, 1889, and April 4, 1890	176.30	
Certified claims, 1890, act April 4, 1890.....	2.75	
Certified claims, 1891, act August 30, 1890.....	2.00	
Certified claims, 1892, act March 3, 1891.....	7.50	
	<hr/>	6,682.08

Amounts received by officers of the Subsistence Department and by officers doing duty in the Subsistence Department from sales of subsistence stores to the following purchasers during the fiscal year 1895, and taken up for immediate disbursement under the following appropriations:

Subsistence of the Army, 1894: Sales to enlisted men.	7,428.90	
Subsistence of the Army, 1895: Sales to officers, \$287,790.55; to enlisted men, companies, detachments, and hospitals, \$350,788.64; to post exchanges, \$32,313.38; to civilian employees, \$11,272.41; to Leavenworth Military Prison, \$4,682.81; to Quartermaster's Department, \$222.04; to Indian agents and employees, \$1,336.27; to naval officers, \$60.50; of surplus and condemned stores and property at auction, \$2,092; to United States snag boat, \$221.21; of boxes, barrels, etc., \$74.14; of garden seeds, \$57.37; to Geological Survey, \$249.11; total.....	691,163.43	
	<hr/>	698,592.33

Amounts taken up by officers doing duty in the Subsistence Department on account of reclamations for stores lost, damaged, etc., and in correction of errors in their accounts, etc., during the fiscal year 1895:

Subsistence of the Army, 1894.....	33.17	
Subsistence of the Army, 1895.....	799.47	
	<hr/>	832.64

Amounts charged against officers still in the service on account of funds and stores alleged to have been lost by theft, etc., and for which relief can only be obtained in the Court of Claims, under sections 1059 and 1062, Revised Statutes, or from Congress, as follows:

Subsistence of the Army, 1880.....	75.92	
Subsistence of the Army, 1886.....	2,455.82	
Subsistence of the Army, 1889.....	24.04	
	<hr/>	2,555.78

Total resources		2,557,147.20
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EXPENDITURES.

Amounts expended on the books of the Treasury from the appropriations of the Subsistence Department during the fiscal year 1895, as follows:

Subsistence of the Army, 1892 and prior years, transfer account	\$31.82
Subsistence of the Army, 1893.....	181.09
Subsistence of the Army, 1894.....	1,413.11
Subsistence of the Army, 1895.....	197.14
Subsistence of the Army (certified claims), act August 23, 1894	985.87
Subsistence of the Army (certified claims), act March 2, 1895.....	224.58
Commutation of rations to prisoners of war in rebel States and soldiers on furlough—	
Certified claims, 1890, act April 4, 1890.....	2.75
Certified claims, 1891, act August 30, 1890.....	2.00
Certified claims, 1892, act March 3, 1891.....	7.50
Certified claims, 1894, act March 3, 1893.....	77.25
Certified claims, 1895, act August 18, 1894.....	13.50
Certified claims, acts March 2, 1889, and April 4, 1890	104.47
Claims for quartermaster's stores and commissary supplies, act July 4, 1864, and March 2, 1895.....	77.80
Twenty per cent additional compensation, act March 2, 1895	224.80

\$3,493.68

Amounts disbursed by officers of the Subsistence Department, and officers doing duty in the Subsistence Department, during the fiscal year 1895, as follows:

Subsistence of the Army, 1894.....	53,336.96
Subsistence of the Army, 1895.....	2,249,759.26
Commutation of rations to prisoners of war in rebel States and soldiers on furlough:	
Certified claims, 1894, act March 3, 1893.....	905.06
Certified claims, 1895, act August 18, 1894	4,434.15

2,308,435.43

Amounts dropped by officers doing duty in the Subsistence Department in correction of errors in their accounts during the fiscal year 1895:

Subsistence of the Army, 1894.....	.14
Subsistence of the Army, 1895.....	74.00

74.14

Amounts transferred on the books of the Treasury, act March 3, 1875 (18 Stat. L., 418):

Subsistence of the Army, 1893, transfer account....	7.75
Subsistence of the Army, 1892 and prior years, transfer account.....	932.91

940.66

Amounts carried to the surplus fund on June 29, 1895:

Subsistence of the Army, 1893.....	35,450.16
Subsistence of the Army, 1892 and prior years.....	225.91
Commutation of rations to prisoners of war in rebel States and soldiers on furlough, certified claims, 1893, act August 5, 1892.....	16,445.87

52,121.94

Total expenditures 2,365,065.85

BALANCES.

Amounts in the Treasury to the credit of the appropriations of the Subsistence Department on June 30, 1895, as follows:

Subsistence of the Army, certified claims, act August 23, 1894.....	.09
Subsistence of the Army, 1894.....	36,093.06
Subsistence of the Army, 1895.....	13,782.56

Amounts in the Treasury to the credit of the appropriations of the Subsistence Department, etc.—Cont'd.

Commutation of rations to prisoners of war in rebel States and soldiers on furlough:

Certified claims, acts March 2, 1889, and April 4, 1890	\$2, 117. 91
Certified claims, 1894, act March 3, 1893	20, 358. 68
Certified claims, 1895, act August 18, 1894	10, 486. 50
Claims for quartermaster's stores and commissary supplies, acts July 4, 1864, and March 2, 1895.....	. 08

\$82, 838. 88

Amounts to the credit of officers of the Subsistence Department, and of officers doing duty in the Subsistence Department, with the Treasurer, assistant treasurers, and designated depositaries, and in their personal possession, on June 30, 1895, as follows:

Subsistence of the Army, 1894.....	246. 60
Subsistence of the Army, 1895.....	106, 374. 24
Commutation of rations to prisoners of war in rebel States and soldiers on furlough, certified claims, 1895, act August 18, 1894.....	65. 85

106, 686. 69

Amounts charged against officers still in the service on account of funds and stores alleged to have been lost by theft, etc., for which relief can only be obtained in Court of Claims under sections 1059 and 1062, Revised Statutes, or from Congress, as follows:

Subsistence of the Army, 1880.....	75. 92
Subsistence of the Army, 1886.....	2, 455. 82
Subsistence of the Army, 1889.....	24. 04

2, 555. 78

Total balances..... 192, 081. 35

SUPPLIES.

The Subsistence Department is charged with the duty of purchasing and issuing to the Army such supplies as enter into the composition of the ration, and of procuring and keeping for sale to officers and enlisted men such articles as may from time to time be designated by the inspectors-general of the Army. These supplies are purchased as near the points of consumption as practicable, regard being had to their quality and prices as compared with those of stores at more remote points and to the cost of transportation from place of purchase to place of issue or sale. The greater portions of the supplies have during the past year been procured as usual in the large markets of the country, such as New York, Chicago, San Francisco, St. Paul, Omaha, St. Louis, Kansas City, New Orleans, etc., but fresh meat, and to a great extent flour and fresh vegetables, have been obtained from dealers and producers at or near the points of issue.

FREQUENCY OF SHIPMENTS.

It is the policy of the Department to have requisitions made for short periods, depending upon the keeping qualities of the different articles, viz, quarterly (or bi-monthly when nearness to the point of supply will permit) for coffee, canned goods, etc.; monthly for breakfast bacon, cheese, evaporated fruits, fish, ham, etc., and semi-monthly for fresh vegetables. The result has been found to be most satisfactory, as it reduces the amount of damage.

ADVERTISEMENTS AND CONTRACTS.

During the fiscal year ending June 30, 1895, 95 newspaper advertisements and 707 circulars, posters, and handbills inviting proposals for subsistence supplies were reported to this office. There were also

reported 402 contracts for fresh meats, fresh vegetables, complete rations and meals, and other supplies required for the Army.

ISSUES TO INDIANS.

The following statement shows the issues of subsistence stores to Indians during the year, made at the expense of the Indian Bureau of the Interior Department, the amount of which has been reimbursed by that Bureau:

To whom issues were made.	Value of issues.
Enlisted Indians and their families:	
Troop L, Third Cavalry, at Fort Meade, S. Dak.....	\$124. 94
Troop L, Eighth Cavalry, at Fort Keogh, Mont.....	2, 652. 77
Moqui Indian prisoners en route from Fort Wingate, N. Mex., to and at Alcatraz Island, Cal.....	533. 36
Total.....	3, 311. 07

The following issues were made to Indians for which no charge was made against the Indian Bureau:

To whom issues were made.	Value of issues.
Chiricahua Indian prisoners at Mount Vernon Barracks, Ala., and at Fort Sill, Okla.....	\$9, 485. 00
Indian prisoners at various posts.....	189. 90
Indians visiting military posts, under Army Regulations 1395 and 1396.....	320. 67
Total.....	9, 995. 57

MISCELLANEOUS ISSUES AND EXPENDITURES.

Issues to the value of \$43.37 were made to teachers of Indians at Mount Vernon Barracks, Ala., from July to November, 1894. These issues have been paid for from the appropriation for contingencies of the Army.

Destitute citizens were supplied with subsistence at a few posts during the year upon orders of the commanding officers. The issues amounted to 531 incomplete rations.

At Sacramento, Cal., from July 20 to August 20, 1894, 2,907 rations were issued to United States marines.

For liquid coffee there was expended \$7,743.21, being an increase of \$3,861.51 over previous year. This increase was due largely to movements of troops during the labor troubles in the early part of the fiscal year. For extra-duty service \$20,257.50 was expended, a decrease of \$1,912.40; for advertising, \$6,305.56, a decrease of \$443.33; for meals for recruits and recruiting parties, \$50,715.68, a decrease of \$31,697.51.

LOSSES OF STORES AND PROPERTY.

The value of the stores lost by accident, by wastage in transportation, while in store, etc., during the year, for which no one was held responsible, was \$4,178.74, of which \$170.79 was due to fire at Fort Pembina, N. Dak., in May, 1895, and \$188.53 to theft at Fort McIntosh, Tex., in January, and Jefferson Barracks, Mo., in June, 1895. The aggregate of losses of this character is less by \$3,759.84 than that of similar losses of previous year.

Supplies lost in transportation during the year, for which the responsibility was fixed, amounted to \$183.58, of which \$56.41 has been collected.

SALE OF CONDEMNED AND OBSOLETE STORES.

	Subsistence stores.		
	Condemned.	Obsolete.	Total.
Original cost	\$5, 246. 07	\$2, 053. 52	\$7, 299. 59
Amounts realized from sales.....	1, 379. 82	435. 46	1, 815. 28
Loss	3, 866. 25	1, 618. 06	5, 484. 81

A decrease from previous year in the value of the stores condemned of \$2,188.08. The net loss on condemned stores was less than one-fifth of 1 per cent of the value of all stores purchased. From the sale of condemned subsistence property the sum of \$276.72 was realized.

CREDIT SALES.

Sales to officers on credit amounted during the year to \$189.93, all of which was collected. The sales to enlisted men on credit amounted to \$23,267.33 and the collections to \$23,579.59, a portion of which was on account of sales on credit in previous year.

FRESH BEEF.

With a view to improve the quality of fresh beef, under the changed conditions of commercial supply, contracts have been made when practicable for the delivery of chilled beef. This insures the delivery of beef in better condition than could otherwise have been secured, and the cost is only half a cent a pound more than last year at the same posts.

ROOT CELLARS, COLD STORAGE, MEAT-ISSUE ROOMS, AND CORRALS.

The experience of previous years having shown me the necessity for the construction of root cellars, cold storage, meat-issue rooms, and corrals at posts which needed them, I had the honor recently to address a letter to the Secretary of War requesting that \$17,000 be made available in the Quartermaster's Department for providing them during the current fiscal year, and that if this could not be done an item of that amount be directed to be included in the annual estimate of that Department for the fiscal year 1897 for the purposes mentioned. The Quartermaster-General has reported that the item would be included under the proper heading in the estimate, as requested. As my letter gave full explanation of the necessity for supplying these facilities at posts, I here quote extracts from the same, viz:

All buildings at military posts, including those needed for the storage and protection of subsistence supplies, are constructed by and at the expense of the appropriations of the Quartermaster's Department. Whatever the needs of the Subsistence Department may be in these particulars, relief can only be obtained through the Quartermaster's Department, except only in cases of temporary shelter where the Quartermaster's Department is not prepared to furnish it, when it can be supplied by the Subsistence Department from the appropriations of that Department.

Where subsistence storehouses at posts have been provided with cellars the latter have been used for the storage of salt meats and such other stores as require to be kept in a cool place. When the law of June 16, 1890, added fresh vegetables to the ration proper storage facilities did not exist at all posts for caring for them, and the cellars of storehouses, and in some instances the storerooms themselves, were used for such storage. The experience gained in that time has shown the inadvisability of storing vegetables in a room containing subsistence stores which absorb odors,

such as coffees, teas, sugars, flour, etc., or in a cellar beneath such stores where the emanations from those which decay pass up through the floor. It has also been determined that it is to the interests of the Government to send to posts which are isolated vegetables in carload lots, but they should not be so sent unless root houses—structures apart from storehouses—constructed in the earth or on the surface, according to soil and climatic conditions, are provided for their reception. These structures should properly be built, where needed, by and at the expense of the appropriations of the Quartermaster's Department.

The necessity of providing fresh meats for the Army under such altered conditions as will insure with a greater certainty than formerly the furnishing of meats for enlisted men of the kind and quality stipulated for in the contracts has been recognized for some time by this office. In February last I had the honor to invite attention to the subject. The changed conditions referred to contemplated the providing at posts of a moderate amount of cold-storage facilities in the way of large refrigerators or specially constructed rooms to answer for cold-storage purposes, under the charge and control of the post commissary and maintained at the expense of the Subsistence Department for ice, where meats would be received from the contractor in bulk (in quarters, halves, or whole carcasses) and cut up and issued by the Subsistence Department to the organizations or general messes as wanted, the surplus on hand being preserved by the post commissary from one issue day to another in the facilities provided for the purpose. The providing of these facilities would properly fall on the Quartermaster's Department, but the Quartermaster-General, to whom the request for them for certain posts was referred, reported that there were no funds available in his Department for the construction of cold-storage rooms at the posts mentioned in the communication. This office thereupon authorized the furnishing of large refrigerators at various posts needing them for the preservation of the fresh meats to be received under the contracts for the fiscal year 1896.

Another of the changed conditions necessitates the providing at each post of a meat-issue room in which the contractor can deliver his meats for inspection and acceptance, and where it can be cut up and served out to the organizations entitled to it. At small posts, where issues can be made in the subsistence storehouses, large refrigerators can be made to answer the purpose, without any considerable special construction by the Quartermaster's Department. At large posts where separate meat-issue rooms must be constructed the issue room and cold-storage room can be easily and economically combined in one structure. All these constructions should be undertaken by, and at the expense of the appropriations of, the Quartermaster's Department.

A few posts in the West, situated at points remote from railroad facilities, require for quality and certainty of supply that beef contractors should keep their herds of cattle near the post and feed them upon stipulated qualities and quantities of forage for a definite period before killing. To save the expense of the construction of the corral (charged in the price of the meat), which must occur upon each change of beef contractors, a corral for the post should be constructed and maintained by the United States, and the expense of this is properly chargeable to the appropriations of the Quartermaster's Department.

It is not practicable for me to estimate with extreme accuracy the amount of money that will be needed for each of the specific objects of root houses, cold storage, meat-issue rooms, and corrals, which the service stands in need of. Original constructions are not needed at all the posts. Doubtless alterations of existing structures can be made to answer the requirements at many of them for cold storage and issue rooms at least. But whatever money is needed for original constructions or for alterations must properly be furnished by the Quartermaster's Department. The Subsistence Department is thus placed in a position of being held responsible for efficient and satisfactory administration of the subsistence branch of the public service as a whole, while a part of the means for the attainment of full efficiency has to be sought at the hands of a coordinate Department. * * *

I am of opinion that \$17,000 should be made available in that Department, or obtained by it from Congress, for providing the facilities deemed by this Department necessary for its efficient and satisfactory management. I have the honor, therefore, to request that, if the money is not now available in the Quartermaster's Department, an item of \$17,000 may be directed to be included under the proper heading in the estimate of the Quartermaster's Department for the fiscal year 1897. * * *

RATIONS FOR OFFICERS AND THEIR SERVANTS ACCOMPANYING THEM WHILE SERVING IN THE FIELD OR ON TRANSPORTS.

I have proposed an item in the annual estimate of the Subsistence Department for the fiscal year 1897 covering the probable increase in the issue of rations in that fiscal year if the measure proposed by me for furnishing rations to officers and their servants while serving in the field shall be adopted. The measure I propose is to amend the clause

making appropriation for subsistence of the Army by adding a proviso as follows:

Provided, That hereafter each officer serving in the field or on transports shall be entitled, while so serving, to draw one ration per day for himself and one ration per day for one servant actually accompanying him, and that the commanding officer of a separate command numbering not less than four companies shall be entitled, while so serving, to draw an additional ration per day for an additional servant actually accompanying him.

When troops are hurriedly ordered into the field, as they are usually in our Army, the officers should be able to give their undivided attention to the proper equipment of their companies and not be interrupted by the necessity of selecting and gathering personal supplies. Taking the field hurriedly, as above, there may be no stores taken for sales, and in a sparsely settled country none may be found. Tradesmen (as in the late railroad riots), either through sympathy with the discontented employees or for fear of a boycott in the future, often refuse to sell to the troops. In such cases officers are forced to live off the rations issued to the enlisted men of the company, paying, it is true, to the company fund the value of the rations used, but the company is deprived of a portion of its food at a time when it is most needed.

I therefore believe, for military reasons, that it is desirable to issue rations to every person ordered on active service away from a garrison and liable to be surrounded by a hostile enemy or to serve among disaffected people. When transportation is limited the chances are that the ration articles only will be carried.

On taking the field an officer must leave his quarters, his family, his established mess, and, if mounted, he must employ, at his own expense, a hostler as well as a cook. The additional expense entailed upon him, though incidental to the service, is not trifling in amount when purchases, if possible to be made, have to be made at a distance from the regular markets; and the granting of a ration to him, and to his servant or servants accompanying him, from the subsistence stores which must be provided for the troops with which he serves, is reasonable in view of the privations to which he is subjected and the increased responsibilities which he assumes. It is hoped that the measure will meet the approval of the Secretary of War and be by him commended to the favorable consideration of Congress.

EMERGENCY RATION.

On April 17, 1895, I had the honor of recommending that boards of officers should be appointed to examine into the propriety of establishing a ration to be carried on the person of the soldier on emergent occasions where transportation is limited or is not available. My recommendation was approved, and a board (which consisted of one officer of the Subsistence Department, one officer of the Medical Department, and three officers of the line of the Army) was ordered by the commanding general of each department to report upon the components of such a ration. Great interest has been manifested in the subject, and from information received I am inclined to believe that it will be possible to provide a ration, weighing not more than 30 ounces, that will contain sufficient nutriment for the soldier for one day.

ARMY COOKS AND BAKERS.

My predecessors, in their annual reports for the years 1876, 1879, 1880, 1881, 1883, 1884, 1885, 1886, 1889, 1890, 1891, and 1892, strongly recommended legislation which would authorize the enlistment of cooks

and bakers for the military service. As good bread and well-cooked food are matters of great importance to the soldier, I would respectfully invite attention to the subject, with the hope that the Secretary of War may find it consistent to urge upon Congress the desirability of passing the necessary laws for the enlistment and payment of cooks and bakers needed for the service.

I would invite attention to the fact that in the Navy stewards, cooks, and boys are enlisted for the services of officers and crew, and would suggest that to perform similar work in cooking and baking for the enlisted force of the Army skilled cooks and bakers should be enlisted for these special purposes, whose pay should be fixed by law.

There should be a cook and assistant cook for every company, and at posts at which general messes are established or maintained a chief cook at every post, and one baker and assistant baker, with additional assistant bakers not exceeding one for every 200 rations of bread baked per day in excess of 300.

The pay of the chief cook and the baker should be each \$30; of the cook, \$25; of the assistant baker, \$18; and of the assistant cook, \$16 per month.

In addition, I would recommend that a special allowance to the bakery for the necessary fuel and lights be established by regulations.

The action recommended would produce the best results from the ration, no part of the flour issued to the soldier would be taken from him, and the detail of soldiers away from their legitimate duties would be to this extent prevented.

In earlier times, say 1869, the value of flour was about \$6.50 per barrel; now flour of equally good quality can be obtained at \$3.50 per barrel. The expenses of managing bakeries have become greater from the fact that the bakers and assistants are now allowed extra-duty pay at the increased rates now paid to all classes of extra-duty men. This extra pay is paid out of the money received from the sale of flour and bread. The price of bread, from the lessened price of flour, has decreased about 50 per cent. Consequently, the savings (in baking), although probably as great as ever in percentage of flour, do not realize as much money, a deficit occurs, and the necessary expenses are not met.

ARMY COOK BOOK.

The Manual for Army Cooks has been revised, and the revision will soon be placed in the hands of the Public Printer. A feature of the revision is Part II, which treats in detail the subject of field cooking. This portion of the book it is thought will be found to be of great value where troops are ordered to take the field and are of necessity thrown on their own resources in the matter of cooking the food materials issued to them.

SALES OF SUBSISTENCE STORES TO OFFICERS AND ENLISTED MEN.

I repeat the recommendation of this office of last year, that sections 1299 and 1300 of the Revised Statutes be repealed, and I would recommend that section 1144 be amended to read as follows:

SEC. 1144. That the officers of the Subsistence Department shall procure and keep for sale to officers and enlisted men, at cost price for cash, such articles as may, from time to time, be designated by the Secretary of War: *Provided*, That sales of such stores on credit shall be made only to officers and enlisted men who have not been regularly paid, or who are in the field where it is impracticable to procure funds, and to recruits during their first month of enlistment, the amounts due therefor to be charged on the pay accounts of officers and on the muster and pay rolls of enlisted men next after the date of purchase, and deducted from the payments made upon such pay accounts or muster and pay rolls by the Pay Department.

The amendment here suggested will, if enacted, reduce clerical labor in the Subsistence Department at posts and in the Pay Department, and will result in considerable saving to the appropriations of the Subsistence Department. By the existing system these appropriations are now subject to losses by reason of desertions and other causes, which prevent the amounts due for sales on credit from being collected and restored to the current moneys of the Department. As the troops are now regularly paid, no hardship will be imposed upon them by the change to a cash basis. The amendment will, besides, confer on the Secretary of War statutory authority to designate the articles to be kept for sale. This authority, it is thought, should vest in the head of the Department of War, rather than in subordinate officers.

COMMISSARY SERGEANTS.

The number of commissary sergeants in service at the commencement of the fiscal year was 104. During the year 3 new appointments were made, 2 died, 2 were discharged, and 13 were retired. The number in service at the close of the fiscal year was 90.

CLERICAL WORK OF THE OFFICE OF THE COMMISSARY-GENERAL OF SUBSISTENCE.

	Accounts current.	Returns of subsistence stores.	Returns of subsistence property.	Total.
There were on hand June 30, 1894.....	137	87	3	227
Received during fiscal year 1895	1, 910	1, 460	562	3, 932
Total	2, 047	1, 547	565	4, 159
Examined during the year.....	2, 042	1, 474	564	4, 080
On hand June 30, 1895.....	5	73	1	79

The examination of the accounts current required the verification of 35,808 vouchers; the returns of subsistence stores, 24,283 vouchers; and the returns of subsistence property, 1,612 vouchers.

In connection with the examinations there were 3,186 letters and 2,444 indorsements written and recorded upon cards, and 213 papers copied.

The accounts and returns were rendered by 351 officers.

	Claims for commutation of rations while held as prisoners of war in rebel States.	Claims for commutation of rations while on fur- lough, and miscellaneous claims.	Total.
There were on hand June 30, 1894.....	8	22	30
Received during the fiscal year	249	228	477
Old claims reopened.....		3	3
Total.....	257	253	510
Disposed of during the year.....	240	226	476
On hand June 30, 1895.....	17	17	34

The number of communications in connection with the above claims sent out during the year was 1,885.

The clerical work above reported, and that connected with the conducting of correspondence between this office and chief and purchasing commissaries of subsistence concerning the solicitation of proposals and awarding of contracts and other specific details of service; with the Adjutant-General of the Army and the Secretary of War in regard to the revision of Army Regulations, the revision of those of the Subsistence Department, and other general matters of administration of the Subsistence Department; the preparation of estimates, and the placing of moneys to the credit of disbursing officers; and the recording and indexing of letters received and sent, in accordance with an adaptation of the system prescribed by War Department circular of May 15, 1894, have kept the clerical force of the office fully and diligently employed, and the clerical work is practically up to date at the writing of this report.

DUTIES AND STATIONS OF OFFICERS OF THE SUBSISTENCE
DEPARTMENT.

A roster of the officers of the Subsistence Department on June 30, 1895, showing their stations and duties on that date, is hereto appended.

Very respectfully,

M. R. MORGAN,
Commissary-General of Subsistence.

The SECRETARY OF WAR.

Roster of the Subsistence Department, United States Army, June 30, 1895.

Name, rank, and brevet rank.	Duty and station.	Assigned to present station.
COMMISSARY-GENERAL OF SUBSISTENCE.		
<i>Brigadier-general.</i>		
Michael R. Morgan (brevet brigadier-general, Apr. 9, 1865).	Commissary-General of Subsistence, Washington, D. C..	Oct. 8, 1894
ASSISTANT COMMISSARIES-GENERAL OF SUBSISTENCE.		
<i>Colonels.</i>		
Thomas C. Sullivan (brevet lieutenant-colonel, Mar. 13, 1865).	Purchasing C. S. at Chicago, Ill.....	Feb. 16, 1892
John W. Barriger (brevet brigadier-general, Mar. 13, 1865).	Chief C. S., Department of the East, New York, N. Y....	Jan. 26, 1893
<i>Lieutenant-colonels.</i>		
Thomas Wilson (brevet brigadier-general, Mar. 13, 1865).	Purchasing C. S. at New York City, N. Y.....	Feb. 29, 1892
William H. Bell (brevet major, Mar. 13, 1865).	Chief C. S., Department of California, San Francisco, Cal.	Mar. 26, 1894
Jeremiah H. Gilman (brevet lieutenant-colonel, Dec. 31, 1862).	Chief C. S., Department of the Missouri, Chicago, Ill....	Aug. 29, 1892
COMMISSARIES OF SUBSISTENCE.		
<i>Majors.</i>		
Samuel T. Cushing (brevet major, Mar. 13, 1865).	Assistant to the Commissary-General of Subsistence, Washington, D. C.	May 3, 1894
William A. Elderkin (brevet major, Mar. 13, 1865).	Purchasing C. S. at Los Angeles, Cal.....	Oct. 11, 1893
Charles B. Penrose (brevet lieutenant-colonel, Nov. 11, 1867).	Purchasing C. S. at Baltimore Md.....	Aug. 31, 1899
William H. Nash (brevet major, Nov. 17, 1865).	Chief C. S., Department of the Columbia, and purchasing C. S., Vancouver Barracks, State of Washington. On leave.	Jan. 1, 1890
Charles P. Eagan (brevet captain, Feb. 27, 1890).	Purchasing C. S. at San Francisco, Cal.....	Apr. 1, 1894
John F. Weston.....	Chief C. S., Department of Texas, and purchasing C. S. at San Antonio, Tex.	July 5, 1893
Charles A. Woodruff (brevet captain, Feb. 27, 1890).	Assistant to the Commissary-General of Subsistence, Washington, D. C.	Apr. 10, 1894
John J. Clague.....	Chief C. S., Department of Dakota, and purchasing C. S. at St. Paul, Minn.	Feb. 8, 1892
<i>Captains.</i>		
Wells Willard.....	Assistant purchasing C. S., New York City, N. Y.....	Apr. 18, 1895
Henry G. Sharpe.....	Purchasing C. S. at St. Louis, Mo.....	Jan. 21, 1893
Frank E. Nye.....	Chief C. S., Department of the Platte, and purchasing C. S. at Omaha, Nebr.	Apr. 25, 1894
Douglas M. Scott.....	On sick leave.....	
William L. Alexander.....	Purchasing C. S. at Denver, Colo.....	Mar. 26, 1894
Henry B. Osgood.....	Purchasing C. S. at Boston, Mass.....	July 20, 1893
Oskaloosa M. Smith.....	Purchasing C. S. at New Orleans, La.....	May 31, 1892
Edward E. Dravo.....	Chief C. S., Department of the Colorado, Denver, Colo...	Aug. 13, 1893
Abiel L. Smith.....	Purchasing C. S. at Kansas City, Mo.....	June 30, 1893
Tasker H. Bliss.....	On detached duty as aid-de-camp to the Major-General Commanding the Army, Washington, D. C.	Dec. 23, 1892
James N. Allison.....	Purchasing C. S. at Cincinnati, Ohio.....	Sept. 19, 1893

REPORT OF THE SURGEON-GENERAL OF THE ARMY.

REPORT

OF

THE SURGEON-GENERAL.

WAR DEPARTMENT, SURGEON-GENERAL'S OFFICE,
Washington, D. C., September 4, 1895.

SIR: I have the honor to submit herewith a statement of disbursements during the fiscal year ended June 30, 1895, from the appropriation made by the act of Congress for the expenses of the Medical Department of the Army for the said fiscal year, and for other purposes, approved August 6, 1894, as follows:

Medical and Hospital Department, 1895:

Appropriated by the act approved August 6, 1894.....	\$160,500.00
Refunded during the year.....	63.00

Total to be accounted for.....	160,563.00
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Disbursed during the year:

Medical supplies.....	\$26,928.72
Pay of employees.....	29,908.90
Expenses of supply depots.....	4.87
Medical attendance and medicines.....	12,565.58
Washing at post hospitals.....	1,720.26
Miscellaneous expenses.....	116.97
Material for experimental cooking.....	500.00

Total disbursed.....	71,745.30
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Balance on hand to be accounted for July 1, 1895.....	88,817.70
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Balance in United States Treasury.....	\$71,252.20
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In hands of disbursing officers at—

New York, N. Y.....	12,307.88
St. Louis, Mo.....	3,086.87
San Francisco, Cal.....	749.63
Washington, D. C.....	1,420.99
Army and Navy General Hospital.....	.13

	88,817.70
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Of this sum about \$40,000 will be required for payment for supplies contracted for and other obligations incurred prior to July 1, 1895, leaving a balance of about \$48,000, which will revert to the United States Treasury.

The approximate value of the medical supplies actually issued during the fiscal year ended June 30, 1895, is \$97,000.

I also respectfully submit the following statement, showing the expenditures during the last fiscal year from the appropriations of

prior fiscal years for the Medical Department and the balances on hand June 30, 1895:

Medical and Hospital Department, 1894:

Balance on hand July 1, 1894.....	\$88,052.53
Disbursed during the year:	
Medical supplies.....	\$51,074.90
Pay of employees.....	50.00
Expenses of supply depots.....	276.66
Medical attendance and medicines.....	2,911.21
Washing at post hospitals.....	258.43
Advertising.....	6.60
Miscellaneous expenses.....	30.00
Material for experimental cooking.....	48.05

Total disbursed	57,655.85
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Balance on hand June 30, 1895.....	30,396.68
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Medical and Hospital Department, 1893:

Balance on hand July 1, 1894.....	2,410.47
Disbursed during the year.....	120.00

Transferred to surplus fund.....	2,290.47
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Medical and Hospital Department 1892 and prior years, certified claims:

Appropriated by act approved March 2, 1895.....	440.00
Disbursed during the year.....	440.00

Medical and Hospital Department 1891 and prior years, certified claims:

Appropriated by act approved August 23, 1894.....	165.00
Disbursed during the year.....	165.00

Contingencies, headquarters military departments, 1894:

Balance on hand July 1, 1894.....	126.41
Disbursed during the year.....	9.00

Balance on hand June 30, 1895.....	117.41
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Library of the Surgeon-General's Office, 1895:

Appropriated by act approved August 6, 1894.....	8,000.00
Disbursed during the year.....	7,561.51

Balance on hand June 30, 1895.....	438.49
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Library of the Surgeon-General's Office, 1894:

Balance on hand July 1, 1894.....	131.23
Disbursed during the year.....	131.23

Army Medical Museum, 1895:

Appropriated by act approved August 6, 1894.....	5,000.00
Disbursed during the year.....	3,400.83

Balance on hand June 30, 1895.....	1,599.17
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Army Medical Museum, 1894:

Balance on hand July 1, 1894.....	805.70
Disbursed during the year.....	805.23

Balance on hand June 30, 1895.....	.47
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Army Medical Museum, 1893:

Balance on hand July 1, 1894.....	27.23
Transferred to surplus fund.....	27.23

Artificial limbs, 1895:

Appropriated by act of August 18, 1894.....	194,000.00
Disbursed during the year.....	184,192.55

Balance on hand June 30, 1895.....	9,807.45
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Artificial limbs, 1894:

Balance on hand July 1, 1894.....	\$58,608.56
Disbursed during the year.....	10,075.60

Balance on hand June 30, 1895.....	48,532.96
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Artificial limbs, 1893:

Balance on hand July 1, 1894.....	1,402.45
Disbursed during the year.....	8.70

Transferred to surplus fund.....	1,393.75
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Artificial limbs, 1892:

Balance on hand July 1, 1894.....	365.88
Transferred to surplus fund.....	365.88

Appliances for disabled soldiers, 1895:

Appropriated by act approved August 18, 1894.....	2,000.00
Disbursed during the year.....	1,072.36

Balance on hand June 30, 1895.....	927.64
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Appliances for disabled soldiers, 1894:

Balance on hand July 1, 1894.....	913.58
Disbursed during the year.....	80.87

Balance on hand June 30, 1895.....	832.71
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Appliances for disabled soldiers, 1893:

Balance on hand July 1, 1894.....	53.58
Transferred to surplus fund.....	53.58

Army and Navy General Hospital:

For improvement and maintenance of grounds under act approved August 11, 1892—

Balance on hand July 1, 1894.....	996.44
Disbursed during the year.....	954.49

Balance on hand June 30, 1895.....	41.95
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Expended in furnishing trusses for disabled soldiers under the Revised Statutes, sections 1176-1178, and act of March 3, 1879.....

8,284.28

For support and medical treatment of destitute patients in the city of Washington, D. C.:

Appropriated by act approved August 18, 1894 (Providence Hospital).	19,000.00
Disbursed during the year.....	19,000.00

MEDICAL AND HOSPITAL SUPPLIES.

During the past year a new edition of the Supply Table of the Medical Department was issued, in which such changes were made as seemed called for by the progress of medical science. Medical and surgical chests issued some years ago for field service were refitted and modified in their arrangement as suggested by experience in their use. Recently published medical works were sent to military posts with the view of keeping medical officers informed of current advances in medicine and surgery. The old system of weights and measures has been disused and the metric system substituted. The use of the latter was made obligatory on medical officers from January 1, 1895. Post surgeons have been directed to set aside in their hospitals a special room as an operating room, or when necessary to submit estimates for the construction of such a room. The necessary appliances for fitting up these operating rooms in accordance with the requirements of modern aseptic surgery will be provided. With a similar end in view, the supply

department is issuing iron bedside tables with nonabsorbing tops of heavy glass for use in the wards.

During the year a board of officers was convened by me to investigate and report on the form of litter found to be best suited for army use, having in view economy, simplicity of construction, durability, lightness, and adaptability for the services required. This board devised a new model which differs from that formerly accepted in weighing only 17 instead of 24 pounds. The slings accompanying it are simple and detachable. It is considered that this new litter will simplify the litter drill and not only lessen the burden of the bearers but contribute materially to the comfort and safe carriage of those who have to be transported by them.

LIBRARY OF THE SURGEON-GENERAL'S OFFICE.

The following table shows the additions made to the library during the fiscal year:

Description.	On hand June 30 1894.	Added during fis- cal year.	Total June 30, 1895.
Medical journals	33, 297	1, 048	34, 345
Medical transactions.....	4, 913	154	5, 067
Bound theses	1, 663	99	1, 762
Bound pamphlets	2, 604	10	2, 614
Other medical books	72, 090	1, 385	73, 475
Total	114, 567	2, 696	117, 263
Medical theses.....	* 56, 218	2, 627	57, 187
Medical pamphlets	127, 560	8, 284	135, 844
Total.....	183, 778	10, 911	193, 031

* Of the total number of theses on hand June 30, 1894, there were 1,658 bound in 99 volumes during the year.

There were presented to the library during the year 517 books and 7,792 pamphlets and journals.

Volume XVI of the Index Catalogue includes from "W" to "Zythus" and forms a volume of 1,104 pages. It completes the first series of this work. Copies will, as heretofore, be sent to those institutions and persons who have received the previous volumes. The manuscript of Volume I, new series, is nearly ready for the printer, the usual appropriation having been made for this volume.

ARMY MEDICAL MUSEUM.

The total number of specimens in the Army Medical Museum at the end of the fiscal year, June 30, 1895, was 32,889, of which 623 were received during the year.

The following statement shows the details of additions, transfers, etc., in the different sections:

Pathological section:	
In museum June 30, 1894.....	10, 656
Transferred to miscellaneous section.....	1
Discarded during the year.....	1
	<hr/>
	10, 654
Received during the year.....	122
	<hr/>
In museum June 30, 1895.....	10, 776
	<hr/> <hr/>

Anatomical section:

In museum June 30, 1894.....	3,569
Exchanged during the year	1

3,568

Received during the year.....	3
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In museum June 30, 1895.....	3,571
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Section of comparative anatomy:

In museum June 30, 1894.....	1,717
Received during the year.....	0

In museum June 30, 1895.....	1,717
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Microscopical section:

In museum June 30, 1894.....	12,033
Added during the year.....	124

In museum June 30, 1895.....	12,157
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Miscellaneous section:

In museum June 30, 1894.....	1,894
Transferred from pathological section.....	1
Received during the year.....	122

123

In museum June 30, 1895.....	2,017
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Provisional pathological section:

In museum June 30, 1894.....	1,593
Discarded during the year.....	1

1,592

Received during the year.....	238
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In museum June 30, 1895.....	1,830
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Provisional anatomical section:

In museum June 30, 1894.....	807
Received during the year.....	14

In museum June 30, 1895.....	821
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RECAPITULATION.

Specimens in museum June 30, 1894.....	32,269
Exchanged or discarded during the year.....	3

32,266

Received during the year	623
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In museum June 30, 1895.....	32,889
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The museum was visited during the year by 52,091 persons.

The following are some of the more interesting specimens added to the museum collection during the fiscal year ended June 30, 1895:

1. Monstrous human fetus; double harelip, with cleft palate, and dislocation of knees, ankles and left wrist. Presented by Dr. C. G. Stone, Washington, D. C.
2. Human fetus with lower extremities united; symelus. Purchased.
3. Hemorrhage into medulla oblongata and cervical cord. The lesion involves the origins of the eighth, tenth, eleventh and twelfth cranial and first six cervical nerves. From a soldier aged 55 years. Presented by Lieut. Col. W. H. Forwood, deputy surgeon-general, United States Army.
4. Heart showing several malformations, the principal ones being the transposition of aorta and pulmonary artery, and open septa, both interauricular and interventricular. Also brain showing abscess cavity. From a white girl, aged 6 years, who was cyanotic at intervals, and died of the abscess. Presented by Dr. G. N. Acker, Washington, D. C.

- 5. Heart showing malformations, especially transposition of aorta and pulmonary artery. Presented by Dr. M. F. Cuthbert, Washington, D. C.
- 6. Angiosarcoma with perforation of stomach. From a soldier, aged 80 years, who died of peritonitis. There were secondary growths in the liver. Presented by Lieut. Col. W. H. Forwood, deputy surgeon-general, United States Army.
- 7. A specimen showing tubal pregnancy, removed by laparotomy. Presented by Dr. J. T. Johnson, Washington, D. C.
- 8. Extirpation of uterus containing a 2 months fetus and a fibroid weighing more than 10 pounds. From a primipara, aged 29 years. Recovery. Presented by Dr. R. S. Sutton, Pittsburg, Pa.
- 9. Extirpation of uterus containing a 3¼ months fetus and a large fibroid. From a primipara, aged 28 years. Recovery. Presented by Dr. R. S. Sutton, Pittsburg, Pa.
- 10. A series of eight models showing the following diseases of the skin: Mycosis, fungoids, leprosy, Paget's disease, syringomyelia, xanthoma, lupus, acne, and erythema from antipyrine. Made by J. Baretta, Paris, France. Purchased.
- 11. Plaster cast of head showing acromegalia of the left side. Presented by Prof. J. Chiene, University of Edinburgh, Scotland.
- 12. Skull showing prehistoric trephining. From an ancient Peruvian. Presented by Dr. M. A. Muñoz, surgeon-general of the Peruvian army.
- 13. Papier-mâché model representing the bones of the left human foot, six times enlarged. Made by J. H. Emerton, Boston, Mass. Purchased.
- 14. Fourteen specimens from the mounds of Florida, considered to be pre-Columbian; one showing healed fracture of humerus, two olecranon perforations, one hyperostosis of ulna, one abscess cavity of femur, one "pilaster" femur, one hip-joint dislocation, one tibiofibular ankylosis after fracture, three cases of platyemia, and three cases of remarkable anterior curvature of tibia, accompanied by symmetrical hypertrophy of shaft. Presented by Mr. C. B. Moore, Philadelphia, Pa.
- 15. Medical and surgical chest, made of aluminum by Charles Truax, Greene & Co., Chicago, Ill., under the direction of Dr. N. Senn.
- 16. Dr. N. Senn's pocket operating case, made of german silver by Charles Truax, Greene & Co., Chicago, Ill.
- 17. Litter used by the ambulance corps of the Massachusetts volunteer militia. Presented by H. L. Burrell, surgeon-general of Massachusetts.

Among the medical medals added to the museum collection during the year were: A fine silver medal struck in memory of Joach. F. Camerarius (1534-1598), who founded the medical college of Nuremberg in 1592; a rare bronze medal of William Stakely (1687-1765), who lectured on the spleen at the Royal College of Physicians, London, in 1722, and whose work on that subject was published in 1723; a beautifully executed gold medal by J. D. Boehm, struck in commemoration of the rebuilding of the Vienna Medico-Chirurgical Academy in 1824; and three bronze medallions, by the French artist David of Angers, viz, one of Baron Desgenettes (1762-1857), chief medical officer of the army of Italy under Napoleon I; one of Xavier Bichat (1771-1802), and the third of D. J. Larrey.

PROVIDENCE HOSPITAL.

Under the provisions of the act of August 18, 1894, making appropriation of \$19,000 "for the support and medical treatment of ninety-five medical and surgical patients who are destitute in the city of Washington, under a contract to be made with the Providence Hospital by the Surgeon-General of the Army," a contract was duly entered into with the institution named, and has been fulfilled to my satisfaction and without complaint on the part of the persons sent there for treatment. The following is a statement of the amount of relief afforded under the appropriation:

Patients in hospital July 1, 1894.....	106
Patients admitted during the year.....	1,084
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Total patients treated.....	1,190
Average number of patients admitted per month.....	90
Number remaining in hospital June 30, 1895.....	114
Total number of days' treatment afforded.....	41,568
Average number of days' treatment per patient.....	35
Average number of patients treated per day.....	114
Longest term of treatment (days).....	365
Shortest term of treatment (days).....	1
Number of patients in hospital during the whole year.....	28

The patients included in the statement represent all classes of diseases, acute and chronic, except those of a contagious nature. The patients shown as having remained in hospital during the whole year are incurable, without home or friends.

ARMY AND NAVY GENERAL HOSPITAL.

The officers' division of 16 beds has been open the entire year, instead of from October to June, inclusive, as formerly. Twenty officers were treated during the year; army, active, 13; retired, 3; navy, active, 2; retired, 2. Of these, 8 active army officers recovered sufficiently for duty, 2 left hospital much improved, and 1 was retired. The 2 active navy officers were much improved and nearly well, and the 2 retired navy officers were improved. The average hospital residence of the active army officers who recovered was 83 days. The average occupation of each of the officers' rooms during the year was 120 days. The greatest number of officers under treatment at any one time was 10, early in January.

The men's division contains 64 beds. At the beginning of the year there were present 16 soldiers who had been transferred for treatment, 65 were received from other posts, and 3 on furlough on account of disease were admitted by authority of the Surgeon-General; total, 84. No sailors were received during the year.

Of the 51 completed cases of transferred men 42 were returned to duty, 5 were discharged for disability, 2 were discharged by order without honor, and 2 were transferred sick (1 to the Government Hospital for the Insane, and 1 with chronic empyema of traumatic origin to Fort Bliss). Thirty-three were in hospital June 30, all but 6 of whom had been admitted in May and June. Those returned to duty made 82 per cent. Of the completed cases, and after subtracting 6 cases known to have been discharged at their posts later, the percentage of recoveries was for all cases 70.6; for rheumatism 65.4 per cent. In 3 of the 5 cases discharged for disability the disability was reckoned at one-half or more. The average residence in hospital of the completed cases was 106 days.

Inquiry made concerning 51 enlisted men returned to duty in the calendar year 1894, six months after they were sent from the hospital, gave 40 on duty or had been well when they had been discharged at their own request, 9 had been discharged for disability, and 2 were not reported.

At one time the number of soldiers under treatment was very much reduced, but at the close of the year 33 were present sick. Pulmonary cases should not be sent to the general hospital. The recommendation is repeated that men sent to the hospital should have at least a good character. Quarters for the two junior officers on duty at the hospital should be built. From the medical and hospital appropriation \$786.50 has been expended in incidental repairs. From the maintenance of grounds appropriation \$954.19 was expended, leaving \$41.95 of that appropriation on hand.

ARTIFICIAL LIMBS.

During the fiscal year there were furnished under the laws relating to artificial limbs 30 artificial legs and 1 arm. The commuted value of an artificial leg was paid in 144 cases of amputation, of an artificial arm in 144 cases, and of an artificial foot in 21 cases. Commutation was paid also in 3,042 cases in which the use of a limb was lost. The money

expended consisted of \$184,192.55 from the appropriation for the year, \$10,075.60 from that for the year ended June 30, 1894, and \$8.70 from that for 1893, a total of \$194,276.85.

The amount appropriated for the current fiscal year will suffice to pay all benefits accruing to disabled soldiers under the laws pertaining to artificial limbs.

The amount required for the fiscal year 1896-97 may be deduced with approximate accuracy from the number of cases paid in the year 1893-94. The same cases, their totality diminished by deaths occurring in the meantime, will recur during the year 1896-97. In 1893-94 the commutation value amounted to \$588,500. Deaths during the period of three years will reduce the number of cases by about 4.8 per cent, the equivalent of an annual death rate of 16 per thousand. The commutation value of the cases becoming due next year will therefore be about \$560,000; but to this will have to be added about \$15,000 for the transportation of those who desire to be fitted with artificial limbs, thus making the estimates for the year ending June 30, 1897, amount to \$575,000.

During the twenty five years from June 17, 1870, the date of the passage of the artificial-limb laws, to June 30, 1895, the names of 21,817 persons were placed as beneficiaries on the approved rolls of this office; 5,578 of these persons have died, 528 were dropped from the rolls and are probably dead, as every effort to discover them has been unsuccessful, and 549 were dropped as not entitled in view of later information concerning the condition of the individual. There remain, therefore, June 30, 1895, 15,162 persons entitled to benefit under the laws. Of these persons 7,043 have suffered amputation of one or more of their limbs and 8,119 are disabled in one or more of their limbs, although amputation has not been performed.

Of the subjects of amputation 3,413 have lost an arm with or without other amputations or disabilities of their limbs, and 3,630 have lost a leg with or without other disabilities. Of the subjects of disability without amputation, 4,876 have one arm affected with or without other disabilities of the limbs, and 3,243 have one leg affected with or without disability of the other leg. Table XXII, pages 162-3, shows the character of the disability in each case so far as is needful to determine the amount of financial benefit accruing to the individual. Inasmuch as many of the persons remaining on the approved rolls are affected in more than one limb, the 15,162 individuals involve 16,312 cases of lost or disabled limbs, of which 3,588 are cases of amputated leg, the commuted price for the artificial limb in these being \$75, and 12,724 cases of other amputations or disabilities of the limbs, the commutation in each of such cases being \$50.

TRUSSES AND APPLIANCES.

The number of trusses issued during the year was 1,167; the number of appliances 141.

MEDICAL OFFICERS.

There were 98 medical officers reported to this office as having been on duty with scouting parties and on other field service during the year.

Promotions during the year.—Two deputy surgeons-general with the rank of lieutenant-colonel to be assistant surgeons-general with rank of colonel; two surgeons with the rank of major to be deputy surgeons-general with the rank of lieutenant-colonel; two assistant surgeons with the rank of captain to be surgeons with the rank of major; eight

assistant surgeons with the rank of first lieutenant to be assistant surgeons with the rank of captain.

Deaths.—None.

Retirements.—One assistant surgeon-general with the rank of colonel; one assistant surgeon with the rank of captain (for disability).

Army medical examining boards were convened for the examination of officers for promotion to the grades of assistant surgeon with the rank of captain and surgeon with the rank of major; but no board was necessary for the examination of candidates for position in the Medical Department of the Army, as the number of assistant surgeons in service has not become reduced to 110, the number allowed by the Army appropriation bill for the year ended June 30, 1894.

HOSPITAL CORPS.

No marked change in the administration of the Hospital Corps has been made during the year. The superiority of a special corps over the old system of detailing men for hospital work is more and more fully demonstrated, and it is believed that the character of the personnel has gradually improved. That during the last year but two men were discharged by sentence of general court-martial as against twenty of last year is an evidence of this fact. Great care is taken to investigate the character and previous record of every man offering for enlistment, reenlistment, or transfer into the corps, with a view to maintaining a high standard of sobriety and efficiency. A considerable reduction in the number of privates of the Hospital Corps has taken place during the year, owing to the abandonment of a number of military posts. There were in service June 30, 1894:

Hospital stewards	117
Acting hospital stewards.....	75
Privates	585
Total	777

At the end of the last fiscal year, June 30, 1895, there were:

Hospital stewards	116
Acting hospital stewards.....	82
Privates	530
Total	728

The quota under existing regulations would be 746.

The gains during the year have been as follows:

Enlistments and reenlistments	127
Transfers from the line.....	84
Rejoined from desertion	6
Total	217

Of this gain 44 were enlistments of civilians.

The losses during the year were as follows:

By expiration of term of service	120
Discharged for disability	8
Discharged under General Orders, Nos. 80 and 81, 1890.....	114
Discharged by sentence of general court-martial	2
Transferred to the line of the Army.....	1
Retired.....	5
Died.....	4
Deserted	12
Total	266

Desertions were one less than last year, and amounted to 1.2 per cent, as compared with 4.5 per cent for the Army at large for 1893-94.

Expenditures under the appropriation for the support of the Hospital Corps (\$215,000) for the fiscal year ended June 30, 1895, have been kept as low as was consistent with the interests of the service. It is estimated that owing to the reduction of the force about \$7,000 will be turned into the Treasury from that appropriation.

No examination for appointment as hospital steward was held during the year, as the number of hospital stewards available for assignment from discontinued posts rendered such examination unnecessary, nor is it probable that an examination for the position of steward will be held during the current year. Thirty-three candidates for detail as acting hospital steward were examined in October, 1894. Twenty-three were found qualified and have since been detailed; 10 failed to pass. Owing to the greater number of casualties in the corps of acting hospital stewards, it is probable that an examination for a few vacancies will be held during the coming fall.

The completion of the new hospital at Washington Barracks, D. C., in the latter part of October, 1894, enabled the Department to accommodate a full Hospital Corps company of instruction in the old hospital at that post, and in the early part of November to discontinue the company then existing at Fort D. A. Russell, Wyo.

The companies of instruction have proved valuable in increasing the efficiency of the Hospital Corps, and for the large number of accessions to the Hospital Corps from civil life this instruction has been essential. The officers in charge of the companies and their assistants at Fort Riley and Washington Barracks have devoted themselves with great faithfulness and success to the work intrusted to them. The character of instruction is similar to that given in former years, but constant effort is made to improve it. Seventy-one men have been gained at the schools and 57 have been lost, chiefly by transfer to other posts and partly by discharge. Distribution of instructed men is gradually reaching the posts throughout the country, but of necessity some of the posts are so remote from the schools that the detachments there have to be kept up by transfers from troops at the post. There are three military posts over 2,000, and thirteen over 1,400, miles from the nearest company of instruction.

The companies of the Hospital Corps at Fort Riley and Washington Barracks not only afford opportunities for instruction which can not be given at the posts, but serve as depots from which men can be drawn in emergency to supply the needs of active service. This advantage was particularly shown in the labor riots of 1894. Post surgeons, however, are required to give their earnest attention to the instruction of their detachments, that their men may be prepared for any emergency.

A slight change in uniform of the Hospital Corps has been made during the year. The trousers which have heretofore been of different color from that of the line, dark blue instead of light blue, will hereafter be of the latter color, thus facilitating their supply. The white piping on the green stripes of the trousers has been left off, as it was found to become easily soiled.

RECRUITING.

The number of applicants for enlistment and reenlistment during the year was 16,586—white, 15,625; negro, 911; Indian, 50. Of these 7,481, or 45.1 per cent, were accepted, including 44.4 per cent of the whites,

54.8 per cent of the negroes, and 94 per cent of the Indians. Of the whites 51.4 per cent were rejected, while 4.2 per cent declined enlistment; of the negroes 43.2 per cent were rejected and 2 per cent declined.

Diseases of the eye caused the rejection of 7.77 per cent of the applicants; underweight and imperfect physique, 11.46; minority, 1.43; general unfitness and undesirable, 3.13; bad or doubtful character or unsatisfactory references, 3.14; imperfect knowledge of the English language, 1.66; illiteracy, 0.67.

In every thousand of the accepted recruits there were 927 whites, 66.7 negroes, and 6.3 Indians; and of the 927 whites 607.8 were natives of the United States, 94.64 of Ireland, 94.24 of Germany, 31.68 of England, 16.97 of Canada, 15.50 of Sweden, 11.89 of Denmark, and 11.23 of Austria.

Of 7,434 whites and negroes accepted, 332 were under 20 years of age, average 18.3 years; 3,358 were from 20 to 24, inclusive, average 22 years; 1,879 were from 25 to 29, average 26.7; 872, 30 to 34, average 32; 438, 35 to 39, average 36.7; 462, 40 to 49, average 44.1; 93, 50 years and over, average 52.8. The average age of the whole number was 26.8 years. The average height was 67.38 inches; that of the native American 67.50, of the foreign born 67.18, of the negroes 67.21. The average weight was 145.88 pounds; native whites 145.06, foreign born 146.77, negroes 149.19. The expansibility of the chest was from 34.27 to 37.17 inches; native whites 34.08 to 36.99, foreign born 34.63 to 37.57, negroes 34.25 to 36.83.

IDENTIFICATION OF DESERTERS, ETC.

Since July, 1890, 455 men have been identified, 176 as deserters, 147 as soldiers whose previous service was terminated by dishonorable discharge (with or without imprisonment), and 132 as frauds of a minor grade. Of these, 35 deserted before final disposition was made of their cases; 341 were discharged the service by sentence of court-martial or by orders from the Adjutant-General's Office; 15 are at present awaiting final action, and of 64 who were retained in service, 8 were subsequently discharged by sentence of court-martial, 3 were discharged without honor by orders from the Adjutant-General's Office, and 18 deserted. During the calendar year 1890 18 identifications were made; in 1891, 88; in 1892, 123; in 1893, 88; in 1894, 80, and in 1895, up to August 17, 58.

In addition to the 455 cases noted, 167 identifications were made of men who had left the service—deserters, 107; military convicts, 26; others, 34. Two applicants for enlistment were identified at the instance of recruiting officers.

From January 2 to August 17, 1895, the whole number of identifications was 66, including 8 cases of men who had left the service. These 66 represented the "repeating" element of 2,493 recruits whose outline cards had been examined, i. e., of every thousand recruits enlisted from civil life 26.47 were identified through the outline-card records as deserters, military convicts, or otherwise bad characters.

HEALTH OF THE ARMY

The health record of the Army for the calendar year 1894 is a most satisfactory one. Taken as a whole, it may be said to be the best annual record ever consolidated from returns sent in by United States Army medical officers; for, although the death rate is a fraction higher than the lowest rate ever recorded, the other rates are by far lower than they

have ever before been in the history of our Army. The number of admissions per 1,000 of mean strength was only 1,089.73 as compared with 1,289.04 during the calendar year 1893, and with 1,376.89, the average of the years of the previous decade. The rate of admission for injuries was as large as usual, but the reduction in the number of cases of disease was most gratifying, the admission rate having been only 845.42 per 1,000 of strength, as compared with 1,048.01 and 1,121.06, respectively, for the previous year and the years of the previous decade. The rate of nonefficiency, or constant sickness, was only 34.49, contrasting favorably with former reports, 40.15 in the previous year and 42.51 as the average of the previous ten years; and the average number of days lost on account of disability by each man of the Army was only 12.6, as against 14.7 in 1893, and 15.5 in the previous ten years. That this reduction in the sick rates was not effected by the discharge of sick men on certificates of disability is readily seen, for the number of men so discharged was less than in any previous year, 13.30 per 1,000 of strength, including 2.89 for injuries, as against 14.93 in 1893, and 26.48 as the average annual rate of the ten years immediately preceding. The average number of days during which each case was held under observation and treatment prior to discharge for disability was 75.54. The lessened rates can be attributed only to greater care in the selection of recruits, and in the preservation of the men from insanitary influences subsequent to their enlistment.

The death rate from all causes was 6.69 per thousand of strength, as against 6.91 and 8.22 for the previous year and decade. The death rate from injury was 2.13, so that the rate from disease was 4.55, as compared with 4.01 of the previous year, 3.95 of the year 1889, the lowest recorded rate for disease, and 5.64, the average rate of the years of the previous decade.

The following tabulation shows these favorable comparisons at a glance:

Army.	Mean strength.	Ratios per thousand of mean strength.						Sick time for each soldier.
		Admis- sions.	Deaths.			Dis- charges.	Con- stantly non- effective.	
			Disease.	Injury.	Total.			
United States, 1894	25, 376	1, 089. 73	4. 55	2. 13	6. 69	13. 30	34. 49	<i>Days.</i> 12. 6
United States, 1893	25, 287	1, 289. 04	4. 01	2. 89	6. 91	14. 93	40. 15	14. 7
United States, 1883-1892 .	24, 046	1, 376. 89	5. 64	2. 58	8. 22	26. 48	42. 51	15. 5

Infectious diseases, general and local, gave an admission rate of 273.51, or one-fourth of the total admissions, while causing one-third of the non-efficiency, showing in this that although the rates have been much reduced this year there is considerable room for improvement by the suppression of infection. To the high rate of these infections venereal diseases contributed 80.43 per thousand of strength, while malarial diseases gave only 74.72, a notable fall from 114.50, the average of the previous ten years. Injuries took second place as causes of admission, with a rate of 244.21; diseases of the digestive system third, with 237.23, and of the respiratory system fourth, with 79.76.

As disabling factors, the general and local infections were most prominent, causing 12.07 of the army rate of nonefficiency; 5.03 of this was due to venereal affections, and only 1.88 to malarial infections. The constant disability due to injuries was equal to 7.88 per thousand strength.

The absolute number of discharges for disability was 368, as compared with 413 in 1893. Eighty of these were caused by injury, 49 by diseases of the nervous system, 44 by consumption, 43 by diseases of the locomotor system, 36 by venereal diseases, and 34 by diseases of the organs of special sense.

The deaths numbered 185, as compared with 191 in the previous year. Fifty-nine were due to accidents; 49 to infectious diseases, general and local, 20 of which were due to typhoid fever and 17 to consumption; diseases of the nervous system 24, of the respiratory organs 19, of the circulatory system 15. Eight deaths were caused by alcohol and its direct results.

The mean strength of the Army during the year, according to its medical reports, was: Whites, 22,904; negroes, 2,086; Indians, 386; total 25,376. The admission rate of the negro troops was considerably less than that of the white soldiers, 811.60 as compared with 1,116.44; and this lower rate was due to a relative freedom from disease, for their admission rate for injury was as high as that of the white troops. Their number constantly sick was 25.93 per thousand, while the corresponding rate among the whites was 35.18; and the average number of days lost by each on account of sickness or injury was, respectively, 9.5 and 12.8. The rate for discharges also was lower among the negroes, 9.40 as compared with 13.56 among the white troops. There was little difference in the death rate of the two races. This is the most favorable showing yet made by the statistics of sickness among the colored troops of our Army.

During the past year the preponderance of disease among the whites as compared with the negroes was due mainly to malarial diseases, venereal infection, alcoholism, tonsillitis, diarrheal diseases, and affections of the eye. During former years, as, for instance, during the past decade, the preponderance among the negroes was due to venereal diseases, neuralgia, tonsillitis, colic, constipation, rheumatism, and eye diseases. During these years alcoholism was about the only disease the prevalence of which was greater among the whites than among the negroes. During the past year alcoholism continued to be more prevalent among the whites than among the negroes, while rheumatism was about the only disease that affected the latter more than the former.

The number of Indians was so small that it is unnecessary to dwell on their statistics. Their death rate was exceedingly high, 20.27 per thousand, due, as in previous years, to consumption, pneumonia, and injuries.

HEALTH OF THE MILITARY DEPARTMENTS.

The admission rates of the military departments varied from 713.49 per thousand of strength in the Department of the Columbia to 1,470.94 in the Department of Texas. The light sick rate of the negro troops mentioned above was particularly marked in the Departments of Dakota and the Colorado, where the admission rates were only 656.31 and 665.63, respectively. In the Department of the Platte, on the contrary, the negro admission rate, 1,211.12, was higher than the Army average. In Texas, which had the highest admission rate, and in the Columbia, which had the lowest, there were no negro troops.

The two departments last named had also the highest and the lowest rates of nonefficiency or constant sickness, 50.27 and 23.56 daily sick per thousand of strength. The Departments of Dakota and California had 28.79 and 30.68. The rates of the other departments did not differ much from that of the Army as a whole.

The death rates varied from 4.80 in the Department of the Colorado to 13.99 in Texas. In the Departments of Dakota and California the death rates were lower than the average of the Army, 6.69; in the other departments they were higher.

The rate of discharge for disability was lowest, 6.76, in the Department of the Platte and highest, 24.22, in the Department of Texas. In the others it did not vary much from the average.

The Department of the Columbia had the best record for the year; the Department of Texas the worst.

DEPARTMENT OF THE EAST.

This department, with a mean strength of 7,252 men, had an admission rate of 1,189.19, with a rate of constant sickness equivalent to 34.53 per thousand of strength, a death rate of 7.31, and a discharge rate of 13.38. The admission rate was higher than the average of the Army for this year, although considerably below those of former years. The other rates do not differ from the Army average of the year. The increased admission rate was due to malarial and venereal diseases and the results of vaccination.

The relatively high admission rate of this department was due to sickness at Key West, Fla., Fort Myer, Va., St. Francis Barracks, Fla., and Washington Barracks, D. C., where the rates were, respectively, 2,226.89, 2,167.33, 1,855.17, and 1,794.30. At Mount Vernon Barracks, Ala., the rate was 1,671.14, and at Columbus Barracks, Ohio, 1,442.75. At Fort Columbus and Davids Island, N. Y., it was above the average, but the rate of constant sickness was not unusually great. At St. Francis Barracks, also, the cases were apparently light, as the non-efficient rate was not above the average. The highest rate of nonefficiency was given by Columbus Barracks, 66.66, followed by Key West Barracks, 61.68, Fort Myer, 53.18, Mount Vernon Barracks, 48.73, and Washington Barracks, 42.33.

Key West had the highest admission rate of any post of the Army during the year, and but for Columbus Barracks it would have had the highest nonefficient rate. It had less malarial disease, alcoholism, tonsillitis and diseases of the respiratory system than the average of the Army; its venereal cases were not in excess, but it had 82 cases of dengue, a large excess of diarrheal diseases and a considerable excess of neuralgia, heart disease and injuries. But for the vaccination of recruits and the venereal cases among them, Columbus Barracks would have had an excellent record. As it was, however, this station had the highest rate of nonefficiency in the Army, 66.66 per thousand of strength, of which 9.65 was caused by vaccinations and 24.86 by venereal diseases. Fort Ringgold, Tex., was the only post which had a higher admission rate for these diseases, but even at this post the rate of constant sickness caused by them was not so high as at Columbus Barracks. The high admission rate at Fort Myer was caused by a large excess of venereal and rheumatic diseases and boils and abscesses, with relatively twice as many accidents and injuries as are ordinarily reported from our military posts, and no less than 573.71 cases of malarial diseases per thousand of strength, as compared with 74.72, the average of the Army. The only post which exceeded it in the prevalence of malarial diseases was Washington Barracks, D. C. Venereal disease was the most prominent cause of the high admission rate at St. Francis Barracks, but besides a greater prevalence than the average of alcoholism, neuralgia, diarrhea, rheumatism, and boils and abscesses, this post was visited by dengue during the year.

Washington Barracks had an excess of neuralgic and rheumatic cases, and of tonsillitis. It had a considerable excess of venereal cases, and twice as much alcoholism as is ordinarily found at military posts; but the chief cause of its large admission rate was 598.10 of malarial cases per thousand of strength, this being the highest admission rate for malarial diseases recorded at any post during the year. But in non-efficiency by reason of such diseases this post was exceeded by two others—San Carlos, Ariz., and Fort Clark, Tex. Mount Vernon Barracks had an excess of alcoholism, rheumatism and malarial diseases, but venereal diseases were the chief cause of its high rates. At Fort Columbus the excess was due to vaccinations and diarrheal cases. At Davids Island lessened prevalence of alcoholism and venereal diseases was offset by vaccina and injuries.

Omitting the small posts, the best records were given by Madison Barracks, N. Y., Fort McPherson, Ga., Fort Niagara and Plattsburg Barracks, N. Y. The first had an admission rate of 540.40 and a constant sickness of 15.03; the second had 534.68 and 21.87; the third, 884.79 and 19.47; and the last mentioned, 887.25 and 20.45.

Madison Barracks had a lessened prevalence of all classes of disease. Fort McPherson exceeded the average somewhat in vaccina and venereal diseases, but in all other classes of disease its rates were very low. The lessening of the rates at these two posts during the past few years has been remarkable. The admission rates of the former from 1891 to 1894 were, respectively, 1,528.48, 1,108.10, 600.00, and 540.40; of the latter 2,394.98, 1,634.09, 1,391.41, and 534.68. At Fort Niagara there was a slight excess of boils and abscesses, and at Plattsburg Barracks an excess of these integumentary inflammations and also of alcoholism, but the prevalence of all other classes of disease was below the average of the Army.

DEPARTMENT OF THE MISSOURI.

This department, with a strength of 4,110, had an admission rate of 1,126.76, a nonefficient rate of 34.29, a death rate of 5.84, and a discharge rate of 12.17 per thousand of strength, all comparing satisfactorily with the average rates of the Army. The department had somewhat more than the average number of cases of venereal and diarrheal diseases, boils and abscesses, but as these were offset by a diminished prevalence of alcoholism, catarrhs, and rheumatism, the slight excess of the departmental admission rate may be attributed to injuries.

Jefferson Barracks, Mo., had the highest admission rate, 1,330.27, but its nonefficient rate was low—only 23.42. Fort Sill, Okla., had the highest nonefficient rate, 44.83, followed by Fort Reno, Okla., 43.53, Fort Supply, Okla., 40.30, Fort Riley, Kans., 38.02, and Fort Sheridan, Ill., 36.92, the admission rate at each of these posts being only a little higher than the average rate of the Army.

Jefferson Barracks had rates lower than the average for venereal diseases, alcoholism, and rheumatism, but this was more than offset by an excess of malarial fevers, tonsillitis, and diarrheal diseases; by a large excess of vaccinations among recruits, and 50 per cent more of injuries and accidents than is usual at a military post in time of peace. At Fort Sill vaccina, alcoholism, diarrhea, and injuries were below the average in frequency, the excess of admissions being caused by boils and abscesses and malarial diseases.

The excess of nonefficiency at Fort Reno was occasioned by malarial and venereal diseases, boils and abscesses, and diseases of the eye;

diarrheas, catarrhs, and alcoholism were relatively infrequent. No case of alcoholism was recorded at Fort Supply, and diarrheal and catarrhal affections were not prevalent; but an excess of vaccinated cases, of injuries, and a very considerable excess of venereal affections gave a higher rate of constant sickness than the average. The record of Fort Riley does not differ from the average of the Army, except in its larger rates for injuries and accidents—440.12 admissions per thousand of strength as compared with the Army rate of 224.21, and 14.76 constantly disabled as compared with 7.88. At Fort Sheridan an excess of diarrheal and venereal diseases and typhoid fever offset low rates for malarial fevers, vaccina and rheumatism.

Fort Wayne, Mich., had the best record in the department; admission rate, 609.44; nonefficient rate, 21.94. Tonsillitis was unusually prevalent at this post, but no case of vaccina or malarial disease was recorded, and the rates were notably low for venereal diseases and alcoholism, catarrhs, diarrhea and injuries.

DEPARTMENT OF DAKOTA.

This department had a mean strength of 3,511 men; an admission rate of 912.56; a nonefficient rate of 28.79; a death rate of 5.70, and a discharge rate of 14.24. The low rates of this department were not due to an exemption from any particular disease, but to a slightly diminished prevalence of all the classified causes of disability, excepting tonsillitis and injuries.

Fort Meade, S. Dak., had the highest rates in this department; admission, 1,543.86; nonefficient, 49.80. The rates at Fort Yates, N. Dak., were 1,278.63 and 43.49. Fort Keogh, Mont., had a similar admission rate, but its nonefficiency was only slightly in excess of the Army rate. Fort Meade had a slight excess of malarial and catarrhal affections, a large excess of tonsillitis, venereal diseases, and injuries, to the last of which was chiefly due its excess of nonefficiency. Although malarial and venereal diseases gave low rates at Fort Yates, tonsillitis, injuries, and vaccina made the general rates higher than the average of the Army. This post had 16 cases of diphtheria among the enlisted men during the year. Fort Keogh had low rates for venereal and malarial diseases, but an excess of tonsillitis, diarrheal, and catarrhal affections offset them and gave the post a higher general rate than that of the Army as a whole.

The best record was furnished by Fort Custer, Mont. Admission, 279.88; nonefficiency, 9.54. This is followed in order of progressive increase by Fort Yellowstone, Wyo., Fort Missoula, Mont., Fort Sully, S. Dak., Fort Assinniboine, Mont., and Fort Buford, N. Dak., the last having its admission rate 843.20 and its nonefficiency 26.99. All disabling causes had such low rates at Fort Custer that this post heads the list of those having good records during the year. It had the best record also during the calendar year 1893. At Fort Yellowstone all diseases had low rates except alcoholism, which was as high as the average; conjunctivitis slightly and tonsillitis largely in excess of the average. At Fort Missoula rheumatism and neuralgia, at Fort Sully alcoholism, at Fort Assinniboine venereal diseases, and at Fort Buford colic and constipation were the only entries in excess of the average of the Army.

DEPARTMENT OF THE PLATTE.

With a mean strength of 2,368 men, this department had: Admissions per thousand of strength, 1,109.38; nonefficient, 34.22; deaths, 9.29; discharges, 6.76. In it there was less disability from malarial,

diarrheal and venereal diseases and from vaccination than in the Army generally, but the lessened prevalence of these diseases was offset by a proportionate excess of alcoholism, catarrh, tonsillitis, rheumatism and injuries.

The highest rates in this department were recorded at Fort McKinney, Wyo., and Fort Omaha, Nebr., admissions, 1,315.79 and 1,210.84, respectively; nonefficient, 45.94 and 45.55. Fort Niobrara, Nebr., had as high a rate of admission as Fort Omaha, but its nonefficiency was below the Army average. At Fort McKinney the high rates were due to excess of alcoholism, catarrhal, and rheumatic affections and injuries; other disabling causes had lower rates than the average. At Fort Omaha alcoholism, injuries, rheumatism and neuralgia, and at Fort Niobrara alcoholism, injuries and catarrhal affections were the causes of the high rates. The only large post which exceeded Fort Omaha in its rate for alcoholism was Willets Point, N. Y.

The best records were furnished by Forts D. A. Russell and Washakie, Wyo., admissions, 958.64 and 1,016; nonefficiency, 31.12 and 27.97. The rates of Fort D. A. Russell were thus low, notwithstanding the occurrence of ten cases of typhoid fever and an excess of alcoholism, tonsillitis, rheumatism and neuralgia. Similarly at Fort Washakie the low general rate coexisted with an excess of alcoholism, malarial diseases and affections of the eye.

DEPARTMENT OF TEXAS.

The mean strength of this command was 2,710; admissions, 1,470.94; nonefficiency, 50.27; deaths, 13.99; discharges, 24.22. The diseases responsible for these high rates were venereal and diarrheal affections, malarial and typhoid fevers, boils and abscesses, and the results of vaccination.

All the posts in this department exceeded the Army average in their rates. The highest rates were recorded at Camp Eagle Pass, admissions, 2,213.11; nonefficiency, 60.95. This admission rate was exceeded by only one post—Key West, Fla.—which suffered from an epidemic of dengue during the year. The nonefficiency rate was exceeded by two posts—Columbus Barracks, Ohio, and Key West, Fla. Notwithstanding its high rates, Eagle Pass had no case of vaccina, typhoid fever, rheumatic fever, consumption, pneumonia or tonsillitis. It had an excess of malarial disease, alcoholism, neuralgia and bronchitis, but the chief factors of its high rates were venereal and diarrheal diseases. Of the former it had 278.70 per thousand of strength; of the latter 426.23, the highest rate for diarrhea of any Army post. The lowest admission rate was furnished by Fort McIntosh, 1,235.29; the lowest rate of nonefficiency by Fort Sam Houston, 47.81. The posts in sequence of progressively increasing admission rates were McIntosh, Ringgold, Bliss, Sam Houston, Brown, Clark, Hancock, and Eagle Pass; in sequence of increasing noneffective rates, Sam Houston, McIntosh, Clark, Bliss, Ringgold, Brown, Hancock, and Eagle Pass.

Fort McIntosh had less disability from vaccina and malarial diseases than the average, but more rheumatic affections, much more alcoholism, and very much more venereal diseases. Fort Ringgold had no case of vaccina, typhoid fever, tonsillitis or pneumonia, and its rates for malarial, rheumatic and catarrhal affections were small; but affections of the eye were unusually prevalent, alcoholism was greatly in excess, and venereal diseases gave the highest admission rate of any Army station during the year—57 cases out of an average strength of 166 men, equivalent to a rate of 343.38 per thousand of strength. At Fort Bliss the high rates were due to malarial, diarrheal and rheumatic affections, consumption,

tonsillitis and diseases of the eye; at Fort Sam Houston to malarial, diarrheal and rheumatic affections, vaccina, and boils and abscesses, (31 cases of typhoid fever added to the nonefficiency at this post); at Fort Brown to malarial and venereal diseases, boils and abscesses, and affections of the eye; at Fort Clark to vaccina, malarial, venereal and diarrheal diseases, and at Fort Hancock to alcoholism, venereal and diarrheal diseases, and injuries.

DEPARTMENT OF THE COLORADO.

Strength, 3,334 men; admission rate, 1,013.80; nonefficient rate, 32.70; death rate, 4.80; discharge rate, 13.80; all comparing satisfactorily with those of the Army for the year. This department had less malarial, venereal and diarrheal diseases than the average of the Army, and somewhat less of boils and abscesses, alcoholism and catarrhs. Tonsillitis, colic and constipation had a greater prevalence than in the Army generally.

Fort Wingate, N. Mex., had the worst record, admission rate, 1,669.49; nonefficiency, 52.35. At Fort Marcy, N. Mex. and Fort Douglas, Utah, both rates were higher than the Army averages; at Forts Grant and Apache, Ariz., they differed little from these averages. At San Carlos and Whipple Barracks, Ariz., the admission rate was lighter and the nonefficiency heavier than the average. Fort Logan had an average admission rate and a light nonefficiency.

The high rates at Fort Wingate were due to tonsillitis, diarrheal, catarrhal and rheumatic diseases, and injuries; those at Fort Marcy to venereal diseases and alcoholism, tonsillitis, catarrhal and rheumatic affections, and those at Fort Douglas to venereal diseases and alcoholism, tonsillitis and catarrhs. The malarial rate of these three posts was light. At Fort Grant vaccina and malarial diseases had lower rates than the average, and tonsillitis and injuries higher rates, and at Fort Apache vaccina had lower and rheumatic affections and injuries higher rates. At San Carlos malarial diseases were the prominent cause of the high rate of constant sickness.

Fort Bayard, N. Mex., had the best record, 557.93 admissions and 21.25 nonefficient per thousand of strength. Fort Stanton, N. Mex., Fort Huachuca, Ariz., and Fort DuChesne, Utah, also had excellent records.

DEPARTMENT OF CALIFORNIA.

Strength, 1,460; admission rate, 958.22; nonefficiency, 30.68; death rate, 6.85; discharge rate, 12.33. This department had more sickness from malarial infection than the Army as a whole, 145.89 per thousand of strength as compared with 74.72, but this was much more than offset by a lessened prevalence of most of the other causes of disease.

The Presidio of San Francisco, Cal., is the only post in the department which had rates in excess of the Army generally; its admission rate was 1,307.53, and its nonefficiency 43.35. These were chiefly due to an excess of malarial diseases and injuries. The nonefficiency at San Diego, Cal., was large, as there were some chronic cases from other stations at this post.

The rates at the other posts in California were excellent.

DEPARTMENT OF THE COLUMBIA.

Strength, 1,445; admission rate, 713.49; nonefficiency, 23.56; death rate, 7.61; discharge rate, 11.76. The favorable rates in this department were due to a lessened prevalence of all diseases, and especially of venereal, malarial and rheumatic affections.

Fort Walla Walla, Wash., exceeded the average of the Army in its rates, admissions, 1,416.24; nonefficiency, 47.95. Tonsillitis, bronchitis, diarrheal diseases, and injuries had rates at this post higher than the average of the Army. The other posts were much below the average. Excellent records were given by the large posts of Fort Sherman, Idaho, and Vancouver Barracks, Wash.

THE HIGHEST AND LOWEST RATES AT INDIVIDUAL POSTS.

As noted in summarizing the statistics of sickness in the military departments, the post of Key West Barracks had the highest admission rate, 2,226.89 per thousand of strength. This post was reestablished in 1893, during which year its rate was but slightly in excess of that of the Army. The high rate of the past year was due, as already stated, page 18, to an epidemic of dengue. Only two other posts had the admission rate for the year in excess of two entries per man of the average strength, Camp Eagle Pass and Fort Myer. During the previous year no less than ten posts had such excessive rates, and among them were three of the largest in the country, Columbus and Jefferson Barracks, and Davids Island.

Columbus Barracks had the highest rate of nonefficiency, 66.66 per thousand of strength. This, however, must be considered as a great improvement in the record of this station, as in the five years immediately preceding its rates varied from 71.98 to 92.74. Three other posts had more than 6 per cent of their strength constantly sick, Key West Barracks, Camp Eagle Pass, and Fort Hancock. The first in 1893 had a rate but slightly larger than the average of the Army, but the others have always had high rates.

Among the larger posts, Fort Custer, Vancouver Barracks, Fort McPherson and Madison Barracks had the lowest admission rates during the year, and among the smaller posts Forts Mason and Trumbull. Fort Custer and Madison Barracks had the smallest rates of nonefficiency among the larger posts. The constant sickness at the first named was less than 1 per cent. Forts Yellowstone, Trumbull, Stanton, Canby, and Mason had the best records in this respect among the smaller posts.

Fort Bliss had the highest rate of discharge for disability—61.43 per thousand of strength, occasioned by 18 cases, 5 of which were caused by consumption, 4 by injury, and 3 by syphilis; but the largest absolute number was recorded at Fort Snelling, 23 cases, 6 of which were caused by injury, 5 by disease of the circulatory system, 4 by disease of the locomotor system, 3 by syphilis, and 2 by disease of the special senses. Doubtful cases were sent to this post from other stations in the department to be under the observation of the medical director prior to discharge. Fort Sam Houston had 14 cases; three posts had 11 cases each; one 10 cases; three 9; one 8, and two 7 cases each.

The highest death rate was recorded at Fort Townsend, where 4 deaths in the small garrison occasioned a rate of 62.50 per thousand of strength; but all of these were caused by injury. The largest absolute number at any one post was 8, which number was reached at Forts Leavenworth and Omaha. Fort Sam Houston had 7 deaths, Columbus Barracks 6, and Fort Bliss 5 deaths.

PREVALENCE OF SPECIAL DISEASES.

Scarlet fever.—Only 3 cases of this fever were reported; 1 from Fort Yates, N. Dak., 1 from Fort Monroe, Va., and 1 from the field, Camp A. E. Wood, Wawona, Cal. In November a case occurred in the family of an

officer at Columbus Barracks, Ohio, but isolation and subsequent disinfection prevented the spread of the disease. Since the close of the calendar year scarlet fever has been reported in an officer's family at Fort Assinniboine, Mont. Fort Logan, Colo., Fort McHenry, Md., and Willets Point, N. Y., have each had one case among the children. The post children at Fort D. A. Russell, Wyo., were stopped from attending school in Cheyenne on account of the presence of the infection in that city. A recruit brought the disease to Davids Island, and the man who took care of him in hospital became a second case, but the disease was not permitted to spread beyond this. One case was reported also among the enlisted men of Vancouver Barracks, Wash.

Measles.—During the calendar year 76 cases of measles were reported among the troops at 19 military stations. The largest number at any one post was 21 at Fort Leavenworth, Kans.; 9 occurred among troops in the field, 8 at Columbus Barracks, Ohio, and 7 each at Fort Sam Houston, Tex., and Fort Niobrara, Nebr.; the others were scattered. The infection in most instances was derived from civilian settlements in the vicinity of the garrisons. In several instances measles appeared among the children at military stations, but was suppressed without spread either among the families or the troops. Since the close of the calendar year the disease has been epidemic at Brownsville and Brackettsville, Tex., Forts Brown and Clark having become slightly affected.

Rötheln.—Eight cases were reported from Fort Wayne, Mich., 2 from Fort Bayard, N. Mex., and 1 from Fort Sherman, Idaho. In February and March, 1895, the disease was prevalent in Salt Lake City and invaded the families at Fort Douglas; about 20 cases occurred among the children.

Variola.—One case was reported among enlisted men at Fort Keogh, Mont., during the calendar year. A case occurred in the person of a cadet at the Military Academy, West Point, N. Y., in January, 1895. Proper measures were taken in both instances and there was no spread of the disease. Children and civilian employees at several posts were vaccinated on account of the reported presence of the disease in neighboring civil communities.

Varicella.—Four cases of this disease appeared among the troops at three military stations. Cases occurred among children at a number of posts.

Influenza.—Of this disease 875 cases were reported among the troops during the calendar year as compared with 2,052 in 1893, 1,793 in 1892, 3,087 in 1891, and 4,070 in the year of its onset, 1890. Most of the posts had more or less of the disease. Fort Keogh, Mont., and Fort Wingate, N. Mex., had the largest number, 94 each. Fort Grant, Ariz., had 38, Presidio of San Francisco, Cal., 37, and Fort Adams, R. I., 32. Since the close of the calendar year notable outbreaks have occurred at a number of posts. At Fort Niobrara, Nebr., in January; at Fort Sheridan, Ill., and West Point, N. Y., in February; at Jefferson Barracks, Mo., Angel Island, Cal., and Fort Buford, N. Dak., in March, and at Davids Island, N. Y., from January to April, inclusive. At Angel Island it was recommended by the post surgeon that during the prevalence of the epidemic all wetting of barrack floors be prohibited, and that the men be cautioned against exposure to drafts and sitting in the squad rooms without their blouses. Effect was given to these recommendations by order of the post commander. As the men affected at Davids Island were those most exposed during guard, drill, and fatigue, recruits being almost wholly exempt, the post surgeon recommended that the guard and fatigue work be lessened, and that passes

be restricted to such men as were of well-known good and sober habits. At Jefferson Barracks many of the cases were complicated with catarrhal pneumonia. At West Point the characteristic features of the epidemic were severe spasmodic cough, tracheal or bronchial, and the frequent occurrence of otitis media.

Dengue.—Two posts were visited by this disease during the past year; 82 cases were reported among the troops at Key West Barracks, and 53 at St. Francis Barracks, Fla. It prevailed in July at the one post, in September at the other.

Mumps.—Cases of mumps, 209 in number, were reported among the troops at 29 posts. Fort Monroe, Va., had 41 cases; Columbus Barracks, Ohio, 35; Fort Sidney, Nebr., 23, and Fort Riley, Kans., 19.

Diphtheria.—From Fort Yates, N. Dak., 16 cases were reported; from Fort Thomas, Ky., 1 case, and from Jackson Barracks, La., 1 case. The cases at Fort Yates occurred among the men quartered in the old and crowded infantry barracks, while the men in the new light and roomy barracks of the cavalry were exempt. One set of officers' quarters at this post became infected. All the family became sick—husband, wife, two daughters, servants, and Chinese cook. The cases ended favorably. A case occurred in August among the military prisoners in Leavenworth prison, the only case of the kind ever reported from this institution. The patient had been an inmate of the prison for nearly a year. He was employed as a stonecutter in the prison yard and had not been outside of the yard for several weeks prior to his attack, nor had he received any visitors.

Capt. C. F. Mason, West Point, N. Y., reported in February, 1895, 7 cases of diphtheria in the family of Private Starr, of the Army service detachment; the mother and six children were affected. One child died on the morning after medical attendance was called in. Tracheotomy was performed, but the trachea below the incision was filled with membranous exudate. Schering's antitoxin was telegraphed for and used in the other cases with apparently marked improvement. Ten days later one child had a slight attack of urticaria, and another complained of pains in the joints, but he had no fever nor local objective symptoms. In no case was there any change at the site of the injections except a slight and temporary tenderness.

Shortly after the close of the fiscal year another report of the occurrence of diphtheria at this post was received. The cases recovered under treatment with antitoxin serum:

Private Moran, Army service detachment, living at the post near the soldiers' hospital, in a new house, clean and well kept, has four children, as follows: Mary, aged 13 years; John, 11 years; Julia, 9 years, and Annie, 7 years.

On July 8 John and Julia were sent to the hospital by their mother to consult me on account of swelling of glands in the neck. Neither complained of sore throat, and when questioned both stated that they had none; but an examination showed extensive membrane on tonsils and soft palate in both cases. On following them home I found Annie's throat in the same condition. The temperature in each case was between 100° and 101°; general condition good. Mary's throat was normal; she was isolated from the other children; but on the 11th membrane appeared in her throat also. The urine of all the patients was negative throughout, as shown by daily examinations. July 9: Temperature the same. Behring's antitoxin was administered hypodermically to each patient, as follows: John, 4 c. c.; Julia and Annie, 3 c. c. each. July 10: All doing well; membrane disappearing from all the throats, but Annie has some in nose. Highest temperature, 99°. July 11: Mary taken sick; temperature, 100.5°. July 12: Membrane has spread extensively in Mary's throat, and is of a dark color and offensive odor. Temperature, 101° to 102.6°; swallowing difficult; seems very sick; two serum tubes inoculated from throat. July 13: All well except Mary, who is worse; Klebs-Löffler bacilli abundant in cultures from Mary's throat. After this date the recovery of the first three children was uninterrupted. On the 20th cultures were made from the throats of John and Julia; the

one had no bacilli but many cocci; the other showed Klebs-Löffler bacilli still abundant. On the 24th cultures from Julia and Annie had Klebs-Löffler bacilli present. No more serum being available no further cultures were made. July 16: No improvement in Mary's condition; inoculated with 5 c. c. of the antitoxin serum. July 17: No change. July 18: Temperature, 98.8°; seems better, membrane slightly less. July 19: Much better; membrane thinning. July 22: Membrane all gone. From this time convalescence was normal. No treatment other than by antitoxin was used in any of the cases except a gargle of lime water.

Typhoid fever.—During the calendar year 152 cases of this fever, of which 20 were fatal, were reported. This does not differ materially from previous annual records. In 1893 there were 162 cases with 17 deaths, and in 1892, 151 cases with 14 deaths. The largest number of cases at any one post during the year was 31 at Fort Sam Houston, Tex. Fort Sheridan, Ill., had 24; Fort Leavenworth, Kans., 11; Fort D. A. Russell, Wyo., 10; Fort Logan, Colo. and Camp Pilot Butte, Wyo., 8 each; Fort Douglas, Utah, 6, and Whipple Barracks, Ariz., 5; three posts had 4 cases each; four had 3 each; eight 2 each, and nine 1 each. A number of cases occurred among the military prisoners and civil attachés and 1 among the members of the guard at Leavenworth prison. The disease in most instances was attributed to importation from other and generally neighboring civil communities.

The water supply was probably responsible for the cases at Leavenworth post and prison. The water furnished by the Leavenworth Water Company is ordinarily sedimented in part before distribution; but from August 2 to 10, while the settling basin was being cleaned, the water was pumped directly from the river into the supply mains. During this period the water was not only very muddy, but positively foul. After standing twenty-four hours in an air-tight receptacle it emitted a strong odor of hydrogen sulphid. Five cases of typhoid fever among the prisoners and one among the guard appeared in quick succession from five to nineteen days after this water was first supplied. Its use for drinking purposes, unless previously boiled, was interdicted, and new cases became infrequent except among those who disregarded the interdict. Three prisoners and one civilian attaché became affected in September, and three other civilians up to the close of the calendar year. Eight cases were reported at Fort Leavenworth in August and September. Some of the cases at Fort Sheridan, Ill., were attributed by the post surgeon to dust infection during the exposures of the men while on active service in Chicago during the riots. There were also many cases in the rural districts around the post; and as no precaution was taken by the men in drinking water wherever obtainable while out in the neighborhood for exercise or pleasure, some cases may have originated in this way.

Lieut. G. D. De Shon reported an outbreak of typhoid fever in which the most prominent of the causes apparently determining the attack, was the use of heavy, sour and indigestible bread:

July 3, 1894, Companies A and H, Seventeenth Infantry, left this post (Fort D. A. Russell, Wyo.) for Pueblo, Colo., arriving there early the following day and going at once into camp by the side of the Union Depot on ground which had been under water during the flooding of the Arkansas River only a few days previous, and which was still damp. Its surface was level and sparsely covered with high marsh weeds and wild sunflowers. The soil was sandy, covered to the depth of from 1 to 4 inches with an alluvial deposit left by the flood. The odor of decaying vegetable matter was perceptible, and at times offensive. The heat during the middle of the day was intense. Sinks were dug about 30 yards from the flank of camp. The water was from two sources—Arkansas River or city water drawn from a tap in the depot and artesian well water brought to the camp in barrels. The food furnished consisted of the Government ration drawn from the assistant commissary of subsistence at Fort Logan, fresh meat being purchased in Pueblo at contract prices by authority of the Subsistence Department. Additional vegetables were bought in open market

from the company funds. Company A exchanged its flour at a neighboring bakery for fresh bread of excellent quality. Company H baked its own bread in field ovens, producing an article that was heavy, sour and indigestible. The bread constituted the only difference in the food of the two companies. In all other respects they lived under indently the same conditions, performing the same duties, protecting railroad property, until their return to this post August 4.

From the official record it appears that the health of the command was excellent, the only case on sick report being that of Private F., Company H, who was sick in quarters from July 13 to 16 with "malarial fever." Acting Hospital Steward Depeyre, who accompanied the expedition, informs me, however, that there existed many cases of diarrhea which were not taken up on sick report. Several of these were in Company A and yielded rapidly to treatment. The great majority were in Company H and obstinately resisted all treatment. Steward Depeyre reports 35 out of 44 men in Company H as having suffered in this way to a greater or less extent. The steward himself and the three privates of the Hospital Corps on duty with this command were attached to Company H for rations. During the first few days they ate the field bread above described and all suffered from nausea, griping pains, and diarrhea. After this they purchased bread from a bakery and experienced no further trouble. Seven members of Company H were taken on sick report after their return to this post and treated by me for catarrhal gastroenteritis, from which they declared they had suffered at intervals since their arrival at Pueblo. Several other milder cases in this company were also treated by me without being taken on sick report. Purgatives, followed by intestinal antiseptics and mild astringents, together with careful diet, brought prompt cures in all these cases.

August 5, the day following the return of these companies from Pueblo, Private F., Company H, was admitted to hospital with a temperature of 105° F., complaining of intense headache. He had had a severe chill, and at time of admission was sweating freely. Under large doses of quinine his temperature dropped to normal on the following day, and he has since remained well. Diagnosis: Intermittent fever; one paroxysm.

August 5, Private C., Company H, was taken in hospital with a temperature of $99\frac{1}{2}^{\circ}$ F., which rose the following evening to $103\frac{1}{2}^{\circ}$ F. Prior to admission he had a chill. After admission sweating was so profuse as to dampen his bedclothing. He complained of severe headache and backache. His bowels were constipated. No tenderness nor gurgling could be elicited over iliac region. No eruption was present. Large doses of quinine lowered his temperature temporarily, but never to normal. His symptoms continued.

August 8, Private A., of Company A, was admitted, suffering from the same symptoms, and quinine produced the same result. This patient was the only one sick in his company, and the only one of all fever cases in this hospital not a member of Company H. He is of slender physique, and was one of the few men in his company under treatment at Pueblo for diarrhea.

August 10, Private McD., Company H, was admitted with the same symptoms.

August 19, Private K., Company H, was taken into hospital under same conditions as the others, except that his chill had been more intense and his temperature at admission was higher, 104° F. He was one of the seven patients above mentioned as under treatment for gastroenteritis on returning from Pueblo, having been in hospital from that cause from August 6 to 14. On the latter date he was returned to duty cured.

August 27, Private M., Company H, was admitted to hospital with febrile symptoms similar to the others. He, too, had been under my treatment in hospital for gastroenteritis from August 9 to 12, on which date he had gone to duty well.

August 27, Private C—n, Company H, was placed in hospital with the same train of symptoms.

The blood of these patients was examined under the microscope with great care on repeated occasions without detection of the *Plasmodium malariae*. During the second week Private C. developed the dried and fissured tongue seen in prolonged fevers. From the second day his body was covered with a peculiar faint brown mottling, which continued until his temperature became normal. In Privates C., A., and McD., during their second week, and in Private K. during his first week, there appeared a few of the flattened, rose-red papules characteristic of typhoid fever. Ehrlich's test gave with the urine of Privates K., M., and C—n the blood-red color which differentiates typhoid from fevers of malarial origin. This test was made on dates varying from the fourth to the twelfth days of the disease. In the cases of Privates C., A., and McD. the diazo test was not made until the third week of the disease, and gave negative results, producing only the yellow and orange colors frequently observed in applying the test to normal urine. It would seem, then, that this test is of value only in the early stage, when its need is greatest felt, and that later on, when other signs have indicated plainly the nature of the disease, the diazo reaction can no longer be obtained. There can be no doubt but that these six cases

are typhoid fever. In their clinical course they correspond closely with those cases so ably described by Maj. Charles Smart, surgeon, United States Army, under the name of mountain fever. The onset in all these cases has been sudden, ushered in by chill more or less marked. None have presented any of the usual bowel symptoms of typhoid. All have responded quickly to quinine in large doses, but only as a temporary febrifuge. They all present a curious sign, first noted by Capt. George McCreery, assistant surgeon, United States Army. On removing the finger after making pressure as for edema a distinct welt can be seen and felt at the point vacated by the finger. This is most marked in the upper intercostal spaces near the sternum.

It seems fair to assume that a predisposing cause existed in all these six cases—five of which occurred in one of the two companies living under identical conditions—and that that predisposing cause was the prolonged gastrointestinal disturbance produced by the ingestion of the field bread baked by Company H. This bread, heavy, sour, and impenetrable to the digestive juices, underwent certain changes of decomposition in the alimentary canal, producing poisons which not only caused, by their irritating local effect, a prolonged diarrhea, but also by their absorption into the general system lowered the vitality and rendered the subjects an easy prey to capture by germs, especially such as enter through the gastrointestinal tract. It would certainly be safer, when practicable, to exchange flour for bakers' bread rather than to induce present digestive troubles and possibly future typhoid by eating the poor product of a field oven.

I am indebted to Capt. George McCreery, assistant surgeon, United States Army, for his courtesy in allowing my continued observation of these cases after they had passed into his charge, and also for many valuable suggestions in relation to the entire subject of mountain fever.

Captain McCreery invited special attention to the tumefaction on pressure observed in these typhoid fever cases in the following note:

I have the honor to call attention to a symptom observed in the typhoid fever cases occurring in this locality, which I have not yet seen noted elsewhere. This symptom is "tumefaction on pressure," and is observed in the subclavicular region, and frequently over the entire surface of chest. When firm pressure is made with the finger, as when looking for edema, it is followed by a very pronounced tumefaction which lasts but a few seconds, and can not be immediately reproduced at the same spot. It is usually oval in shape, with the long axis perpendicular to the ribs, and to elicit it the finger must be applied perpendicular and not parallel to the ribs. It is apparently situated beneath the deep fascia; can be readily seen in most thin subjects, but in other cases can only be detected by touch; this is especially true when considerable adipose tissue masks its appearance. It appears early in the disease and lasts until the fever disappears. The explanation of the phenomenon is not clear, but it may possibly be due to a temporary paralysis of the capillaries by the pressure, followed by distention.

I have observed this phenomenon during the last twelve months, both at this post and at Fort Sidney, Nebr. It is very generally present in this disease, but I have not observed it in other cases, and I now attach some importance to it as a diagnostic point. It may be of interest to add that in the only fatal case of typhoid fever under my care during the period mentioned there was distinct pitting on pressure over the chest, which gradually extended very generally over the body. This was observed during the third week of the disease; the tumefaction was at that time unknown to me and was not looked for at the beginning of the case. The autopsy demonstrated the correctness of the diagnosis.

The identity of these fevers with typhoid has frequently been questioned by many of our best observers, and the noting of any point that will assist in differentiating the disease is of interest. For this reason I submit this report, and trust to have the assistance of other observers in determining the value, or want of value, of the observation.

Regarding the disputed question as to the nature of the fever sometimes reported as "Texas fever," Maj. L. M. Mans has contributed a study of 33 cases from Fort Sam Houston, Tex., which leads him to the conclusion that the fever so reported is an atypical enteric fever. A case of this Fort Sam Houston fever imported to Fort Clark, Tex., was studied by Maj. H. S. Kilbourne and proved to be one in which enteric fever was complicated with malarial infection. So far as known there had been no case of enteric fever at this post during the previous two years and no fatal case of fever of any kind. The other cases of fever existing at the post during the treatment of this special one had none

of the characteristics of enteric fever except that all were not amenable to treatment by quinin. The fevers that occurred at Fort McIntosh, Tex., in 1893, were studied by Capt. W. B. Banister, and these also are reported as enteric fever cases.

Report of Maj. L. M. Maus, Fort Sam Houston, Tex.—The following report is based upon observations of 33 cases of typhoid fever, which occurred among members of this command during the past summer and fall, and which were treated in the post hospital; several of these cases occurred during the early portion of the present winter. It is generally conceded by local practitioners that typhoid fever prevails in this vicinity, more or less, throughout the year, though often of a mild type. For many years past I have observed that mild and atypical forms of enteric fever exist west of the Mississippi River, especially on the high table-lands in the mountainous districts. They are often characterized by a low pulse rate and mild temperature curve, and frequently lack many of those essential symptoms which are required to complete the history of a classical case of Eastern typhoid fever. I have observed also that many of these cases occurring in the mountain regions are more or less complicated with malarial poisoning, and frequently are initiated by two or more distinct rigors of a decidedly quotidian or tertian type. Hence the belief among certain observers that they are entirely of a malarial origin. Owing to this peculiarity they are regarded as a distinct type among many Western practitioners and are designated "mountain fever." Such cases may very properly be classed as Woodward's typhomalarial or Loomis's continued malarial fever. Loomis, however, regards his continued malarial fever as one which results from both poisons, the malarial plasmodium and typhoid bacillus, and believes that while the malarial symptoms have disappeared the fever which persists is still the result of the malarial poisoning as well as the typhoid, and hence states that quinine in these cases not only does not benefit the disease, but, on the other hand, aggravates it. I have not found this to be the case, but have noted that the malarial manifestations observed in the early history of the fever, namely, the three or four distinct chills, would disappear after the proper administration of quinine, leaving the disease one of a purely typhoid nature. In consideration of the light now thrown upon malarial diseases through the microscope, it would seem that errors of diagnosis between typhoid and malarial fevers should in the future be avoided.

As before stated, many of the cases of typhoid fever which are observed here are quite mild in type and often are characterized by negative symptoms. This fact has led to much ambiguity in their classification, and we hear not infrequently the terms continued malarial, simple continued, climatic, dengue, slow, and Texas fever used synonymously with typhoid, by the profession as well as the laity. Indeed it is surprising to find how many are unable to arrive at any definite conclusion as to its proper nomenclature, believing it to be a disease *sui generis*. This opinion seems to have been shared by several medical officers of the Army serving in this department. Assistant Surgeon McCulloch, in a special report to the Surgeon-General on this subject, enters into considerable detail as to its etiology, history, etc., and finally concludes by declaring it positively in no way connected with the typhoid poison, but resulting from climatic heat. He accepts the term of Texas fever as a proper classification, believing it only to prevail in this great Commonwealth, and especially that portion bordering the Rio Grande. I believe I can safely say that all the continued fevers encountered here may be ascribed to one of the two causes, namely, malaria or typhoid poison, and that the term Texas fever, except when applied to that disease propagated among Northern cattle by the infected tick of Southern cattle, is erroneously used. Without attempting to enter into a discussion of the merits of Assistant Surgeon McCulloch's paper, which is interesting as well as ingenious, I would state that very many cases similar to those he describes occur here long after the heat of summer has passed. Since November three cases of this character have been under treatment here, and in two of them not only was the temperature curve mild and pulse rate low, but no eruption was observed nor special intestinal disturbance noted. All three of these cases made an uneventful recovery, and but for the continuous fever these patients would have regarded themselves as well during their illness.

I do not believe there can be any doubt as to the nature of these cases, though on account of their mildness I regard it as more than probable that the typhoid infection was attenuated or the disease modified by climate. Iliac tenderness, gurgling, and more or less looseness of the bowels were present during some period of these cases, though not specially marked in character. Frequent and careful blood examinations were made in all of these thirty-three cases by means of a one-twelfth homogeneous immersion, and in no instance was the malarial plasmodium found. I believe, therefore, a diagnosis of continued malarial or remittent fever can be safely discarded.

Medical authors not infrequently classify these mild cases of typhoid as the abortive form, which classification I regard as incorrect. Mild cases under favorable circumstances nearly always recover, no serious intestinal changes having taken place, though even in these cases I believe for weeks after defervescence that the intestinal glands and mucous membrane remain in an irritable condition, and that relapse may occur when the convalescent is subjected to improper food or undue exercise. Notwithstanding the fact that many of the cases under consideration were mild and atypical in character, it was observed that the slightest indiscretion in diet was liable to lead to serious results, and several serious relapses occurred from this cause, followed by intestinal ulceration, hemorrhage, and death. This occurred in two cases one week after defervescence, and at a time when they were allowed to sit up several hours daily. These two patients stole into the kitchen one night and ate freely of cold pork and beans. Relapse also occurred in other cases as a result of dietary indiscretion, but fortunately with less gruesome results. These patients surreptitiously purchased and ate pears, bananas, grapes, and apples, which fact they acknowledged during their relapses. I believe the diagnosis of these milder cases might frequently be a subject of considerable doubt but for the relapses, which usually place the matter beyond question.

Etiology: A thorough investigation of each case was made, on entering hospital, by a series of questions, and I find it more than probable that of the thirty-three cases all but four were contracted abroad, i. e., outside of San Antonio. However, to accept this theory it becomes necessary to believe that the poison may remain in the system from sixty to seventy days before development. On the 5th of July two troops of the Fifth Cavalry, A and H, and Light Battery F, Third Artillery, left for the Austin annual encampment, via the Austin turnpike. The march was made in five days and the camps and water en route were excellent, except in one case. On the 7th of July the command encamped in a small grove adjoining the San Marcos River. This grove was fenced in and had been used the previous winter and spring as a cattle pen, and when we entered it was covered, several inches, with dry manure and other filth. Besides, the same grounds had been used as a camping ground for railroad laborers a short time previously. Whether typhoid fever existed among them or not I did not learn. Upon our arrival I found the place so filthy and the odor so disgusting that I reported it unfit for a camp, and that it was liable to produce fever. The commanding officer made an unsuccessful attempt to secure other grounds, but failed on account of the lateness of the hour. In less than one week from date of our camp at San Marcos, the first case of typhoid fever occurred in that command, and was followed by thirteen others at short intervals, the last one appearing as late as the fifth week, except in one case, where it appeared sixty days from date of camp. This man told me he had not felt well during the encampment or afterwards, before entering the hospital with the fever. While it is generally conceded that the poison is taken into the system through the alimentary canal, in these cases I feel quite satisfied that it entered through the respiratory system.

Of the remaining fifteen cases supposed to have been contracted away from the post, three arrived here from Fort Riley in less than six weeks before entering the hospital, two from Fort McIntosh in less than four weeks, three from Fort Ringgold in less than one week, three from target practice at Leon Springs in less than one month, one from Fort Meyer in less than ten days, and one from furlough, at work in the country, in less than two weeks. It would be almost impossible to obtain correct information as to the habits of these men coming from different stations, but upon investigation I learned that typhoid fever existed at or in the vicinity of all the posts they had left. Of the four cases which are known to have been contracted locally, one was a frequenter of the Mexican quarter and is presumed to have drunk water taken from the acequias. The other three disclaimed having slept out of garrison or having used any but the city water, which is excellent. Each patient was subjected to a rigid questioning whether his disease was supposed to have been contracted locally or otherwise, and as a rule all disclaimed the use of any water except that taken from the city hydrants, which being artesian is presumed to be beyond suspicion.

Clinical history: The prodromata were not marked in many of these cases, particularly in the milder ones, though I obtained as a rule symptoms of weariness, lassitude, and fever from one to four days before entrance into hospital. In some cases the fever was preceded by chills or chilly sensations, headache, and muscular pain. In two the disease was ushered in by delirium and high fever. The tongue was usually slightly covered with a whitish coat, which remained unchanged throughout the fever. Sometimes it was reddish in color and covered with whitish flakes not unlike the tongue of aphthous children. In a few of the severer cases it became dry, brown, and cracked, and, with the teeth and gums, covered with sordes. The bowels in many of the cases remained regular or slightly costive throughout a greater portion of the illness. At times it became necessary to administer salines or enemata for the purpose of moving them. However, at some stage of the illness looseness or diarrhea was of common occurrence. Sometimes the bowels were loose,

but with one daily action. Typical typhoid stools were observed in some cases and distressing diarrhea in others. Iliac tenderness and gurgling were usually present, though considerable care was oftentimes required to detect them. I attach little importance to iliac gurgling in typhoid fever. The eruption was by no means a constant symptom, especially over the abdomen. I believe as a rule this symptom to be an overrated one. At times the eruption was difficult of detection, and was found on the chest, back, arms, and thighs in place of the abdomen. A few spots may appear on the extremities and disappear before they are recognized. In two cases the taches bleuâtres were observed. The pulse rate as a rule in uncomplicated Western typhoid fever is low, and rarely exceeds 100 beats per minute; it usually ranges from 80 to 90 during the early stages, and from 55 to 70 later on. Those cases which occurred during the summer and early fall were characterized by moist skin and perspiration. In some of the cases the perspiration was so marked that they might have been classified as the sudoral form of typhoid. I will state that this condition of the skin occurred in cases in which the coal-tar derivatives were not used. It probably was the effect of continuous summer heat, as it was not noted in those cases treated during the fall and winter months. Among all of the cases more or less anorexia, gastric disturbance, hebetude, and prostration were observed, and among the severer ones dry and brown tongue, sordes, carphologia, delirium, subsultus, and intestinal hemorrhage. Many of the symptoms may frequently be overlooked, especially in the milder cases, such as slight hebetude, eruption, iliac tenderness and gurgling, and intestinal disturbances. Acute adenitis of one or both groins occurred in seven cases, which suppurated and required opening. I am quite satisfied that in none of these was the adenitis due either to venereal origin or strain. Nervous phenomena, such as delirium, subsultus, carphologia, and coma vigil, so commonly observed in Eastern typhoid fever, are usually absent in the Western type, while pulmonary complications rarely occur. Of the thirty-three cases under consideration there was but one in which the lung was involved, a slight pneumonia and pleurisy.

In summarizing the symptoms of the thirty-three cases I find their frequency as follows: Iliac gurgling, 29; mental hebetude, 24; iliac tenderness, 22; looseness of the bowels, 16; moist skin or marked perspiration, 15; rose-colored spots, 11; acute adenitis, 7; chill, headache, somnolency, muscular pains, and enlarged spleen, 6; brown tongue, 5; epistaxis, 4; sordes, delirium, meteorism, and intestinal hemorrhage, 3; taches bleuâtres, 2, and carphologia, 1. In accordance with the gravity of these cases I have divided them into three classes, namely, mild, medium, and severe, and find that 14 were mild, 9 medium, and 10 severe. The name of each patient with length of fever is also added:

Mild cases: Heckathorn, 17 days; Hunting, 26; Fritz, 23; Love, 17; Miller, 21; Davenport, 20; Petersen, 31, relapse; O'Reilly, 27; Miller, J., 42, relapse fourteenth day; Kelly, 32; Heyn, 41, relapse twenty-third day; Bell, 25; Glaser, 79; Lukomski, 32.

Medium cases: McLennand, 20 days; Douglas, 21; Sheridan, 22; Decker, 21; Depoe, 25; Warmbrodt, 39; Wilson, 34; Criswell, 39, relapse fourteenth day; Martin, 39, relapse twenty-fourth day.

Serious cases: Haynes, 11 days, died; Zimmerman, 16 days, died; Shults, 22; Smith, 26; Buhlert, 26, relapse fourteenth day; Sloduchoski, 29, relapse twenty-third day, died; Leach, 33; Trevott, 47, relapse twenty-third day, died; Kinsen, 40, relapse sixteenth day; Spencer, 64, relapses twenty-sixth and forty-eighth days.

It will be observed that the duration of the fever did not in all cases determine the gravity of the case. In several of the milder ones the fever persisted for five weeks. The number of days of fever in each case has been reckoned from date of appearance of the man on sick report. Judging from the height of the fever on date of his entrance into hospital, as shown by the charts, it is more than likely that fever existed several days before it was registered.

Results: Of the 33 cases 4 died; a mortality of 12 per cent. However, of these four, two in all probability would have recovered, except for the unfortunate error they committed in eating solid and indigestible food. Post-mortem examinations were made in two cases, and the usual ulceration of Peyer's patches was noted. In one case the intestines had become so softened that it was impossible to remove them intact.

Treatment: This consisted principally of a well-regulated fluid diet: Milk, raw, boiled, or predigested, was insisted on until after defervescence. Listening to the importunities of several patients who were suffering from a mild attack, and who declared they were very hungry, I relaxed this rule and added bread to the dietary with an immediate rise of temperature in each case. Beef tea, thin oatmeal gruel, chicken and mutton broth may be substituted for the milk; but patients soon tire of them, and I fancy they cause more gastric disturbance than a milk diet. After defervescence, milk toast, soft-boiled or poached eggs, oatmeal, tapioca, and other farinaceous foods were allowed. Salol, quinine, or phenacetine, alone or in combination, were

need from time to time, but with questionable benefit. Phenacetine exerts a very pleasant effect when the patient suffers from headache, muscular pains, and dry skin. The subnitrate or salicylate of bismuth proved very serviceable in the diarrhea, and turpentine when the tongue was dry and brown. Sulfonal was given to procure sleep, but in my opinion proved less efficacious than opium. Sponging, packs, or baths were rarely required as agents to reduce temperature, since the skin was usually moist and the fever generally in moderation. Convalescents were particularly warned against vigorous exercise, exposure to the sun, or a heavy dietary for weeks after recovery from the fever.

In conclusion I feel justified in asserting that an atypical type of enteric fever exists in Texas, characterized by a mild and brief temperature curve, low pulse rate, and a frequent absence of the usual prodromata noted in cases of Eastern typhoid fever, and as this mild type is common also to the arid and semiarid belts west of the Mississippi River, it is fair to suppose that the contagium vivum is in some way modified by the existing atmospheric and telluric conditions.

Report of Maj. H. S. Kilbourne, Fort Clark, Tex.—Private T. L. W. B., Company G, Twenty third Infantry, was admitted to the post hospital for treatment on the morning of June 27, 1894. Temperature on admission (in the mouth), 102°. There was no prominent symptom of any kind; the man walked from his quarters to the hospital. He had marched with his company from Fort Sam Houston to Fort Clark, a distance of 130 miles, arriving at post June 22, 1894, and had not come under the observation of the medical officer while en route. The progress of the case until the 10th of August was similar to other cases under treatment at the same time, excepting that it was more protracted; emaciation was more pronounced; there was some pain on pressure over the lower abdomen after the second week. The following symptoms were noted during the course of the disease: Tongue coated with yellow-white fur at first, later becoming brownish yellow. Anorexia moderate at first, complete later. Vomiting, none until after August 10. Bowels irregular at first, diarrhea later; discharges feculent with occasional drops of blood after August 10. Tympanites slight after second week, marked after August 10. Much pain in abdomen and prostration accompanied by vomiting of bile, recurring daily, two days excepted, until August 21. Slight jaundice, occasional hicough, mild nocturnal delirium after fourth week, occasionally increased after August 10 and after use of morphia; slight hebetude, but mind clear, when roused, until death.

Occasional studies of the fresh blood were made during the progress of the case. A drop of blood taken from the arm was placed on a cover glass, let fall on a slide, and immediately examined with the one-twelfth oil immersion lens.

July 1: Three slides. Amorphous spherical bodies resembling white blood corpuscles but granular or pigmented, not numerous, from 2 to 4 on each slide; no free spores; no apparent change in red blood corpuscles. July 9: Numerous free spores one-eighth to one-tenth diameter of red corpuscles; free in blood stream, spherical, highly refractive. July 19: Numerous spores, same appearance as in last examination, but spores more numerous. July 25: Hemoglobin estimated 60 per cent. July 27: Rosette-like bodies (two in number on same plate); crescent, intracorpuseular (one, on same slide). July 28: Spores only, not numerous. August 5: Hemoglobin, estimated 50 per cent (average of three trials). No attempt was made to determine the presence of microorganisms in other fluids.

Post-mortem examination by B. L. Ten Eyck, assistant surgeon, United States Army, six hours after death: Body greatly emaciated; rigor mortis; tympanites moderate. Great omentum adherent by its lower border to coil of small intestines; about 6 ounces of yellow serum in pelvic cavity; numerous adhesions between lower coils of small intestines and between lower border of omentum and small intestines, forming a cyst filled with serum. Parietal peritoneum normal; numerous patches of deep ecchymosis, almost black, which were points of adhesion. Ulcerations of Peyer's patches with whitish border in lower third of ileum. Large intestine normal. Spleen three times normal size; gall bladder filled with bile, size of a large pear. Liver not enlarged. Other organs not examined.

Report of Capt. W. B. Banister.—I reported for duty at Fort McIntosh May 9, 1893, and though there was no fever case in the hospital at that time I frequently heard a fever designated as "Texas fever," and as a low form of malarial fever, spoken of as prevalent at this post and vicinity. The medical director of the department sent me a report by Dr. William B. Davis, U. S. A., giving his treatment for and opinion of the fever in question, in which he regards it as a hybrid between malarial and typhoid fever.

Troop C, Fifth Cavalry, arrived at Fort McIntosh from Fort Reno on June 22, 1893, and soon after its arrival 8 cases of fever were admitted to the hospital, and all of them from that troop on the following dates, viz, June 26 and 30, July 4, 5, 6, 13, 15, 25. In the presence of such a number of cases a good opportunity presented itself to study the type.

The second case (June 30), a few days after admission, developed general peritonitis and died on the ninth day from intestinal perforation with the escape of a quantity of liquid fecal matter into the abdominal cavity. Careful inquiry had previously developed the fact that he had been sick for nearly two weeks, and that on the railroad journey down he had been quite sick. He had been suffering with headache, diarrhea, and general malaise. This was plainly typhoid fever.

In the other cases of this series I employed quinine in the early stage for diagnostic purposes, giving 10 grains three times a day, and then 20 grains twice a day. I at first thought the quinine had a favorable influence, but soon perceived that it had absolutely no effect, and the fever pursued the even tenor of its way whether or not quinine was given. The quinine failing in effect, as new cases appeared from time to time, I employed the treatment recommended by Dr. Davis, U. S. A., consisting of chlorinated soda and salicylic acid. I saw no effect from this treatment except to increase the irritability of the stomach. This treatment is not claimed as original by Dr. Davis, and he stated to me in a personal letter that he did not claim any efficacy for it in typhoid, but in Texas fever. I consider the two, at least in this vicinity, as the same. Most of these patients on presenting themselves gave a history of having been ailing for about a week with headache, diarrhea, intense lassitude, and fever in the evening. The thermometer usually showed a temperature of 101° to 103° on admission. Pains in the back and extremities were frequently complained of. Delirium occurred in three of the first eight cases. Muscular tremulousness was marked. Retention of urine, necessitating the catheter, and involuntary evacuations occurred in two cases of this series. Epistaxis was present in the majority of cases, but profuse in none. Mental hebetude was very noticeable in nearly all cases. On asking the patient a question he would stare in a dull manner and a perceptible interval would elapse before the necessary muscular mechanism could be brought into play to return an answer. In two cases coma-vigil was marked, accompanied by carphologia. In three out of the eight there occurred intestinal hemorrhage. In one of these the hemorrhage was recurrent, and in another so severe that the patient seemed in danger from syncope. Bronchitis was a constant feature, and has been in nearly every case of continued fever at this post. In several cases gastric irritability and disinclination for food necessitated rectal alimentation. Albumen was present in the urine of all severe cases, and in one led me to fear Bright's disease as a complication, being one-fourth by volume, but during convalescence the albumen disappeared. There was no typhoid eruption in any of this series. The temperature range was irregular, but not going above 105°.

The first case that occurred in another organization than Troop C, Fifth Cavalry, was on July 29, 1893, in Company F, Eighteenth Infantry. After that date cases occurred in all three organizations on duty at this post. No case occurred among officers or their families, nor in the Hospital Corps detachment. I have often been struck with the great liability of the enlisted men of the line to the infection of fevers, whether malarial or typhoidal. I have often noticed in reports on epidemics of fevers specially prevalent among enlisted men, others escaping infection, that it was attributed to the men being in great proximity to an open drain, or the particular direction of the wind, etc. From a notable instance in my experience I attribute it to the peculiar nature of the duties of the enlisted men of the line and in part to the well-known irregularity of the lives they lead. A man goes on guard. After an early supper (usually about 5.30 p. m.) he walks his tours of guard during the night and early morning hours on an empty stomach till breakfast. In the early morning hours, in such a condition, he is particularly liable to infection. While on duty at Washington Barracks in 1892, about September of that year, nearly or quite eighty cases of intermittent fever were admitted to sick report. But one officer was affected, a comparatively recent arrival, and no case occurred among officers' families or the enlisted men's families on the reservation. Officers and men lived under exactly similar general conditions on a narrow peninsula of land. The barracks and quarters were similar in that they in both cases consisted of a basement, ground floor and second floor, both classes sleeping on the second floor. I believe in that particular place that if a hot cup of coffee and a couple of crackers were issued to each man on going on his tour during the night the sick report would show the benefit of the measure.

To return to the present endemic. The case of Private Clark, Eighteenth Infantry, would have been a fine illustration of enteric fever for a clinical lecture. The chain of evidence was complete in every particular. The temperature chart is like the illustrations in the text-books. The eruption was profuse and typical. I counted forty points of eruption scattered over the abdomen and lower anterior thoracic region. Intestinal hemorrhage also occurred in this case. In only one other case the eruption occurred, which case was not characteristic in other respects; an intestinal hemorrhage occurred in still another case. I could not but realize during the treatment of these cases how readily intestinal hemorrhage of a mild degree might have escaped notice, had my efforts not been so well seconded by the careful exami-

nation of all defects by the ward master, who seemed to take a personal interest in the care and observation of these patients. In private practice, in the absence of careful and trained nurses, this symptom must often escape notice.

Two cases occurred in soldiers' families—one a wife (whose case was complicated by a miscarriage after a month's illness with the fever) and one a child. The child of one soldier living off the reservation died with fever diagnosed as typhoid by one of the city physicians, and the father has since been admitted to the hospital with typhoid, and intestinal hemorrhage has occurred in his case. He is now convalescent and the only case under treatment (March 10). Twenty cases have occurred either in or connected with this command from June 26, 1893, to February 28, 1894. But one death occurred—from general peritonitis. In the earlier cases quinine was tried, but with no effect, and the "Davis" treatment was not more successful. A treatment was then employed which became routine and very satisfactory to me. Whenever the temperature reached 103°, antifebrin, grains 8, tr. digitalis, m. 20, immediately followed by a sponge bath, were given. The temperature would often fall 3° afterwards and stay down for several hours. Concentrated nourishment was given. Milk punches in some cases day and night, or brandy, and I believe that this saved several lives. Three patients were so near death that recovery seemed impossible, and illustrated the truth of the statement of James H. Hutchinson (vol. 1, *Pepper's System of Medicine*) that "It may be said that there is no condition in typhoid fever so grave that recovery from it is impossible." A night watch was kept to administer stimulants and milk all night. In no case did the antifebrin given with digitalis cause any alarming heart symptoms. In a case with the slow pulse rate, the pulse though slow was full and strong. The teeth and mouth were kept clean by the local application of tincture of myrrh and water.

If intestinal hemorrhage were pathognomonic of typhoid fever the diagnosis would be beyond cavil in six of the cases under consideration (one perforation, five intestinal hemorrhage), but it is well known that intestinal hemorrhage may occur in malarial fevers. "In all the severe types of malarial infection, especially if persistent, hemorrhage may occur from the mucous membranes." (Dr. William Osler, *Practice of Medicine*.) All of these six cases were severe and persistent. The above author also states: "I am inclined to think that future observation will show that apart from the thermic fever there are only two forms of these continued fevers in the South, the one due to typhoid, the other to malarial infection." Malarial fever is, however, due to the presence in the blood of the hæmatozoa of Laveran. Dr. George M. Sternberg states, in the *Medical Record*, New York, of May 8, 1893, that "Laveran finds an additional argument in favor of the etiological role of the parasite discovered by him in the curative action of quinine. According to his observations the parasite quickly disappears from the blood under the administration of quinine, and in this he is also confirmed by Marchiafava and Celli. In experiments made with blood drawn from the veins of a malarial patient which was rich in the parasitic elements and contained notably body No. 2, furnished with mobile filaments, it was found that very dilute solutions of quinine—a drop of a solution of a salt of quinine containing 1/1000, quickly arrested the motion of the mobile filaments and caused the parasite to assume the cadaveric form." Large doses of quinine failed to modify the temperature or limit the course of the continued fever then prevailing here. I believe it contrary to the experience of physicians practicing in malarial regions to find that infection assuming only the one type of remittent fever. Intermittent and remittent, in malarial regions, are constant companions, the one not infrequently lapsing into the other, and both readily influenced by quinine.

Intermittent fever in this section is almost unknown, and inquiry among the town physicians develops the fact that ague is a stranger to their practice, and that the rare cases met with occur among recent arrivals from other places. The temperature charts in these cases show this fever to be remittent; but remittent fevers are not necessarily malarial remittents.

"It is notorious that certain cases called 'remittent fever' run a protracted course, and are not abridged by the administration of quinine; that other forms of remittent fever have a tendency to terminate by sudden defervescence on the third or fifth day (Manoy) independently of the administration of quinine; and that still other cases have a tendency to run into the intermittent form unless cut short by the administration of quinine. These last are evidently the most closely allied to malarial intermittent and without doubt have the same etiology." (*Malaria and Malarial Diseases*, Dr. George M. Sternberg.)

The first two conditions stated by this author is the exact status of fever at this post; the last condition does not exist here. The fever lasting from three to five days self-limited without treatment frequently occurs, and has been considered and diagnosed as "febricula." It arises from sudden changes of temperature overthrowing the balance between the two nervous systems controlling heat production, or from indigestible ingesta or whatnot. I am of the opinion that it is in this class of cases that the chlorinated soda and salicylic acid treatment has acquired its reputation.

for aborting Texas fever, or the types prevailing in neighboring posts differ from the type here. I do not consider a difference in type very probable, as the Rio Grande posts on the whole have an environment similar in climate, soil, flora, and fauna. The same people with the same habits live around them, the water supply is from the same source, and the sewerage on about the same system. Another class of fevers mentioned by authors as simple continued fever or continued thermic fever (Guiteras) is not influenced by quinine. This fever however does not present the typhoid condition, mental hebetude, etc., is mild in character, and not attended by hemorrhages from the mucous membranes. Eliminating therefore, for the reasons given above, malarial fevers and simple continued fever from consideration in the six cases of which one presented intestinal perforation and five intestinal hemorrhage, there is no conclusion left but that they should be diagnosed as typhoid fever.

It is a matter of common observation that in endemics of diseases that are typical and unmistakable, atypical cases occur, mild in character, which, if occurring under different circumstances, would lead to hesitation in the diagnosis. With six undoubted cases of typhoid fever and thirteen cases of a continued fever, many of them severe in character, running a course of from three to four weeks, and uninfluenced by quinine, but lacking some of the characteristics of typhoid, such as the eruption, or the temperature curve, or marked abdominal symptoms, one or two of these symptoms lacking in each case. I yet feel fully justified in regarding them as typhoid, and the literature of the subject bears me out in that opinion.

During the discussion on Dr. Dabney's paper on typhoid fever, read before the Pan-American Medical Congress in Washington in 1893, Dr. Dabney (professor practice of medicine University of Virginia), stated that "As for the text-book symptoms, they were influenced by location; in his district, for example, it was rare to see the eruption."

Dr. Anders, of Philadelphia, thought "That it was pretty safe if, during a mild or otherwise irregular endemic or epidemic of fever, a few cases of typhoid occurred, to call the disease typhoid fever."

"The schematic diagram, representing the course of the temperature in an imaginary case of enteric fever, which he devised (C. C. Wunderlich), and which has been reproduced in such recent works as Wilson's *Treatise on the Continued Fevers* (opposite page 156) and Hutchinson's article on typhoid fever in *Pepper's System of Medicine* (vol. 1, page 282) has done more than any other one thing to retard the progress of exact knowledge of the disease. * * * Experience has proved that even when the course of the disease is not modified at all by treatment the temperature does not, as a rule, follow the course of daily morning remissions, and gradually increasing evening exacerbations, during its first week, which he believed to be typical of the disease. * * * Iliac tenderness on the other hand may be very slight or absent altogether. It is clear, therefore, that it is difficult to make the diagnosis of enteric fever if one relies upon the symptoms which are generally described as of most importance." (Dr. G. Eliot, A. M., M. D., in *New York Medical Journal* of July 29, 1893.)

The marked disproportion sometimes observed between the pulse rate and temperature is almost peculiar to typhoid fever, whereas in malarial remittent, the pulse is very rapid. "The absolute frequency of the pulse is, however, less in enteric than in other fevers. There are, in fact, some cases in which, although high fever is present, the frequency of the pulse does not, for some part of the time, exceed that of health." The constant presence of bronchial catarrh in both the typical and irregular cases was a connecting link between them.

"A certain amount of bronchial catarrh is so frequent in enteric fever that it merits consideration as a symptom of the disease rather than as a complication." (Wilson's *Treatise on the Continued Fevers*.)

The conditions for the development of malarial poison in this vicinity are extremely unfavorable. The soil is sandy, and, owing to the chronic state of drought, there is but little vegetation and no standing pools. The Rio Grande flows between steep, bare, forbidding banks, and I do not see how an overflow could be possible in this vicinity. On the other hand, the typhoid-fever-producing conditions are very favorable.

"It is (i. e., typhoid) hence more frequently met with in inland districts in which the temperature is high, but in which malarial generating conditions are absent." (Pepper's *System of Medicine*, vol. 1, page 232.)

At this post the privy dejections are received in zinc receptacles pushed under the seat. The night soil is removed by a contractor every evening. These receptacles get holes worn in the bottom, allowing liquid and semiliquid contents to permeate the soil immediately around them, and though every effort is made to keep them in repair, material is sometimes lacking (notably so last summer) and the permeation does occur. The dryness of the climate converts this foul soil into fine dust, and during the frequent dust storms, the dust is forced into houses through every crack and cranny and must find its way into food while cooking or standing uncovered, and

into all water in vessels not hermetically sealed. A case of typhoid fever occurring in the barracks, the diarrheal dejections of such a patient are received into such a receptacle as above described, and may foul the soil around it. These patients are nearly always ailing for from five days to a week before coming on sick report, and often have diarrhea when they report. Efforts were made some time ago to have these receptacles repaired, and to a great extent it has been done, but with our sandy soil they are necessarily constantly having holes worn through their bottoms. I recommended that after being emptied each night they be partly filled with some cheap antiseptic solution, which would thus both show which were defective and also disinfect all dejecta received in those that were perfect. This plan was not considered practicable, and as the next best method dry earth was provided in the privies, to be thrown on the dejections when passed, but with soldiers I do not believe this plan can be made very effective. I see no reason why, under the present system, this fever should not prevail more and more each summer.

"It has (i. e., typhoid) been observed to prevail most in hot and dry seasons. * * * It may be also, as Baumgarten suggests, that in dry seasons the poison is more disseminated by the dust." (Dr. William Osler, *Practice of Medicine*.)

I have endeavored to show in this paper how pernicious the system in use here for the removal of privy dejections may become on an outbreak of typhoid fever, and what favorable conditions exist for the dissemination of this fever. The problem to be solved in establishing an efficient sewerage system is to find a suitable terminus for it. This post is on the Rio Grande, immediately above the town of Laredo, which derives its water supply from the same river. Any attempt, therefore, to use the river as a terminus for the system would be met on the part of the town people by injunctions, etc., causing a great deal of trouble and many complications. I believe the difficulty could be avoided and a sewerage system put in operation by adopting a system of "intermittent downward filtration." There is a tract of land on the reservation, about 2 or 3 acres in extent, porous, having a sand bed a short distance below the surface, and possessing, therefore, all the requirements for this system.

"Mr. J. Bailey Denton, of England, has found, by applying to such land [i. e., soil of porous material. W. W. B.] a discharge of sewage at comparatively short intervals, having fields for successive treatment in rotation, that the pores of the soil are capable of oxidizing or burning up, as it were, a vast amount of organic matter by means of the fresh volume of air that was made to enter the pores from above, following the downward flow of the sewage as it percolates through the soil. This is therefore called the method of intermittent downward filtration. Mr. Denton tells us that an acre of good porous material can thus be made to absorb the sewage of at least 1,000 persons, and yield at the same time from the under drains a water that is sufficiently pure to be admitted to the natural streams without detriment.

* * * The feasibility of using sewage on the land is therefore a local question, depending on the topography of the surface, the character of the soil, and the market value of the land for other purposes." (*American Sanitary Engineering*, p. 63, by E. S. Philbrick, C. E., 1881.)

Under such a system the sewage could be conveyed through the post in pipes and when near the dumping ground in concrete channels, provided with gates at certain intervals, so that successive portions of the field could be treated in rotation. The prevailing winds are such that the dust from the dumping ground would rarely, if ever, be blown into the post. Under the present system, on the outbreak of typhoid fever, the infecting material (the privies being immediately in rear of the barracks) is kept in our midst, as previously pointed out.

Certain febrile cases at Camp Eagle Pass, Tex., were reported as "simple continued fever" by Lieut. W. F. Lippitt, jr. When called upon for the data on which he based his diagnosis, he replied by forwarding the report which is given below. Col. J. C. Baily, medical director, regarded these cases as atypical typhoid, such as prevail occasionally at Fort Sam Houston, and are described above in the report of Major Maus. Colonel Baily was positive in his belief that the Eagle Pass fever was not like that which prevailed at Fort Clark during the previous summer.

Report of Lieut. W. F. Lippitt, Jr.—In compliance with letter from your office of March 1, 1894, I have the honor to submit the following description of the disease diagnosed as "simple continued fever."

This irregular fever is very prevalent here, and is variously diagnosed by local physicians as dengue, influenza, malarial fever, and typhoid (enteric) fever. The impossibility of identifying it with any of these, and the resemblance of the cases in the beginning to ordinary febricula, led me to the above diagnosis. No case occurred among the children at the post except one, in a boy of 4 years, following an injury. Among the enlisted men 31 are on record as having had the disease one or more

times; of 3 officers 2 had it, but are not reported; in the officers' families of 6 women, 5 were sick. In the hospital corps were 2 cases of short duration. In one of the officers' families nothing but distilled water was used, and in the others and the hospital corps all water was boiled. Notwithstanding this, the percentage of sickness was greater than among the men. Of the cases on record 19 men were sick less than one week; 4 suffered from short attacks at too great intervals to have been relapses; 1 is on record as having been admitted three times at short intervals; the others were sick continuously for some weeks. Of the cases in the officers' families, all were of short duration.

All of the buildings at the post are old, dilapidated, and rotten, infested with bats and every variety of insect. In all of them, when closed, there is a noticeable odor, and in some an almost unbearable one from the manure and other accumulations of the bats. In the quarters occupied by the troop the floor is several feet above the ground and the interval not ventilated, but filled with sweepings and dirt. The officers' quarters are built flat on the ground, the floor of my own quarters resting on the ground. The intervals between the joists are inhabited by skunks, rabbits, rats, snakes and various insects. The commanding officer's quarters are raised above the ground, but have much the same population underneath. This site has been occupied for years, and the ground around these buildings must be saturated with the slops that have been thrown out. This sickness occurred in the fall and late summer. In the corresponding seasons of 1889 and 1890 there were numerous cases of fever (quotidian intermittent), and in 1892, during my absence, of epidemic catarrh (influenza). The last I am sure, and the others I believe, to be the same as those occurring in 1893. In 1891 the garrison was changed in September, and but two cases of fever occurred. The exciting cause in some of the cases was the direct heat of the sun, and a relapse was sure to follow such exposure in a convalescent. The onset of an attack was marked by pains in the muscles of the back, headache, great debility, anorexia, and at times nausea and vomiting, with constipation or slight diarrhea, tongue slightly coated, and sudden high fever, 102° to 104° , and in one or two cases bleeding from the nose. The attack usually began during the day without premonitory symptoms. From the first, complaint was made of sleeplessness. At this time it was impossible to say whether the case would last three days or three weeks. In cases of short duration the symptoms disappeared with or without treatment. In the others the fever continued from 99° to 105° , with irregular remissions for from one to three weeks, when it became subnormal in the morning, $96\frac{1}{2}^{\circ}$ and 97° , and between 99° and 100° in the afternoon, gradually returning to the normal. The disturbance in the pulse rate was noticeably small, and nothing like so great as would have been expected with the fever. But little complaint was made of pain after the first few days. In one case there was slight delirium, and in several marked dulness and deafness. Insomnia was marked and long continued in every case. There was but little disturbance of the digestive system after the first few days; only slight loss of appetite and irritability of the bowels. Constipation was usual, but a purgative or any indiscretion in diet produced diarrhea. The tongue was but slightly coated with a white coating. The respiratory system was disturbed in only one or two cases where there was slight sore throat. There was never any swelling of the joints, and but seldom pain in the joints. In one case, lasting only a few days, there was a slight macular eruption appearing over the abdomen and disappearing in a few hours. In one case there was slight jaundice, which disappeared quickly under treatment. The genito-urinary system was undisturbed. Though a careful examination was made, in no case was there any physical sign of disease in any of the internal organs. The only other symptoms were marked emaciation and great debility in all cases. There was a marked tendency to relapses.

The course of these cases was much the same as that of enteric fever, but if it had been enteric fever some one of over forty cases would have shown iliac tenderness and tympanites. Dengue is excluded by the absence of swelling of the joints, eruption, and hemorrhages, and the slowness of the pains. Influenza by the absence of catarrhal symptoms. Malarial, intermittent and remittent fever by the irregular temperature, the absence of chills, and the fact that the course was not influenced by antiperiodics. The treatment was usually begun with small doses of calomel and bismuth or a mercurial purge, followed by stimulants and concentrated nourishment, with digestive and bitter tonics. Pain was relieved by phenacetin, antipyrin, antifebrin, and opiates when necessary. Insomnia by sulfonal, bromides, and opiates when needed. Antiperiodics were pushed at first, but as they seemed to have no effect their use was discontinued. Sponge baths were used in the worst cases.

Capt. J. R. Kean reported two cases of "simple continued fever" from St. Francis Barracks, Fla., as follows:

I have the honor to forward the medical histories of two cases of fever which, for want of a better name, I call "simple continued fever." These cases are of interest

simply to furnish material for the future investigation of that unclassified and little-understood fever of this section which is certainly neither typhoid nor malarial, and which goes by a number of names, such as simple continued fever, thermic fever, bilious fever, Florida fever. Special value attaches to the second case, as the absence of the plasmodium of malaria was proved by an examination of the blood on the third day of the fever by Dr. Guiteras, of Philadelphia, an expert in such investigations.

1. Private J. M., Company D, Fifth Infantry, admitted on the morning of June 15. Temperature at time of admission, 102.2°. The fever was mild in character, with decided morning remissions, and caused the patient but little discomfort. It rose gradually each day from about 7 or 8 a. m. to 4 or 5 p. m., and then gradually fell, the rise being unaccompanied by rigors and the fall being without sweating. After the first three days the patient was not able to say from his own sensations whether he had fever or not. The bowels were regular; there was no abdominal tenderness or notable enlargement of liver or spleen. In fact the fever (with at first some headache) was the only symptom. On the 17th there was slight epistaxis. Quinine was given, a gram each morning until the 20th, when the daily dose was increased to 1.3 grams. In all 9 grams of quinine were administered, but it is not believed to have had other than a slight antipyretic effect, and did not cut short the fever, as it would have done in these doses had the attack been malarial. There was no evidence of jaundice. The tongue was moderately coated at first, but always moist. Appetite was preserved during attack.

2. Private T. F., Company D, Fifth Infantry, reported sick from camp of a detachment on Anastasia Island on the afternoon of June 29. His temperature on admission was 102.2°. The morning remissions were well marked in this case. There were no abdominal symptoms except slight enlargement and tenderness on deep pressure over the liver. The tongue was moist, moderately coated, tremulous, pale, enlarged, and showed the impression of the teeth. Appetite was lost, but there was no disinclination to take food. The examination of the blood under the microscope on the 21st showed no plasmodia, pigment nor anything abnormal. There was no albumen in the urine. On the 22d pain was complained of under the manubrium of the sternum, but on examination of the chest nothing abnormal was found, and by next day it had passed away. There was no bronchitis. On the morning of the sixth day of illness he had a chill, and the temperature reached its highest point, 103.2°. The lowest point of the remissions was usually about 8 a. m., the high point for the first three days about 6 p. m., and after that from 1 to 2 p. m. The pulse remained slow during the entire illness. There was no jaundice. The fever ended abruptly on the tenth day. A daily dose of quinine, 1.3 grams, was given in the morning for the first six days, and then Warburg's tincture was substituted for two days; but the fever was not controlled by either.

Cerebrospinal fever.—A case, fatal, was reported from the Presidio of San Francisco, Cal. The patient, a recruit, was sick on his arrival at the post from Davids Island, N. Y. He died two weeks later with well-marked symptoms of the disease.

Erysipelas.—Forty-five cases were reported. The largest number at any one post was four, at Fort Wingate, N. Mex., and at Fort Huachuca, Ariz; three cases were reported from each of the posts of Columbus Barracks, Ohio, Fort Douglas, Utah, and Fort Bliss, Tex.; the other cases were scattered. The disease continues to appear at Fort Wingate, for in his reports for March and April, 1895, the post surgeon, Maj. James P. Kimball, has the following notes:

Idiopathic facial erysipelas is given as a cause of admission to sick report. As authorities maintain that all cases of erysipelas arise from some solution of continuity, that is, are traumatic, I wish to state that I have not used the term "idiopathic" without consideration. All of the cases reported, as also one occurring among the civilian attachés, I saw at the beginning of the attack—one several hours before there were any prominent local symptoms. I examined them with great care, and in these cases could find neither solution of continuity nor recent cicatrix. In one was a faint line on bridge of nose, which possibly may have been caused by a slight scratch.

I should like to add a word concerning the use of "ichthyol" in the treatment of erysipelas, as nothing is said of it in the three most recent works on surgery and the practice of medicine in the hospital library. My experience is of course limited, but in the cases treated during the last three or four years the topical application of ichthyol has proved far superior to any other measure of treatment. Mixed with vaseline in equal parts and spread in a thick coating over the diseased surface, pre-

viciously washed off with a 1:1000 solution of bichloride of mercury and covered with absorbent cotton and a light bandage, it allays the burning pain, prevents further spreading, and cuts short the disease.

Lieut. C. C. McCulloch reported two cases of anthrax in the human subject at Rio Grande City, Fort Ringgold, Tex. Such cases are fortunately rare.

1. Mary D., a female child, 8 years of age, claimed that she had been waked in the middle of the night by a small insect biting her on the lower part of the left cheek; that she had killed the insect, but was afterwards unable to find it and discover its kind. There was not much pain at the time, but on waking in the morning the place of the bite was the seat of a very violent itching and burning sensation, and there appeared a small red pimple, which during the day became larger and developed into a blister with a large red and inflamed area around it, somewhat raised above the general level of the cheek. The inflamed area then rapidly increased in size, the center of the vesicle turning black and spreading and the face swelling. There was a great deal of pain in the affected area after the swelling began. This was the history given by the patient and her friends up to the time I took charge of the case; she had been sick and unable to sleep for two days, felt feverish, had no appetite, and was very restless. At the lower part of the left cheek was a black circular necrosed area nearly the size of a silver half dollar. The surrounding tissue was indurated, red, and covered with small vesicles to a distance of 2 or 3 inches in every direction. The face was swollen on both sides so as to make the features almost unrecognizable; the tissues of the neck were also swollen to a great extent. The swelling, except around the necrosed area, was not indurated nor so hard as to pit on pressure, but was loose and puffy; all the cervical glands that could be palpated were considerably enlarged on both sides, though especially on the affected side. The temperature was 103° F., the pulse fairly strong and 120 per minute. The patient conversed rationally, though she spoke with difficulty on account of the great swelling of the tissues of the face. She claimed to have no difficulty in breathing or swallowing; was very restless and in considerable pain. Had vomited twice on that day, but had no diarrhea. She had no appetite; had great thirst; the breath was horribly offensive. There was a considerable flow of saliva.

It was too late when I first saw the case to excise the affected area, which comprised the greater part of the left cheek and left side of the neck. If such operation had been practicable, healthy tissue would have been infected during an operation, and in my judgment the patient stood a better chance for her life without an attempt at excision, though in a case seen early enough, of course, that is the only proper treatment. Vigorous antiseptic measures were, however, adopted; crucial incisions in the affected tissues, parenchymatous injections of carbolic acid ($\frac{1}{10}$) around the necrosed area, constant applications of bichloride of mercury ($\frac{1}{100}$) to the whole area, cauterization with pure carbolic acid, and ice bags to the swollen tissues, were the measures used locally. Internally were given nutritious diet and stimulants, opium being administered to relieve pain and procure sleep. On the next day (6th) the patient seemed somewhat better; the tumefaction had ceased to extend; there was no vomiting nor diarrhea; the temperature was 101° to 102° , pulse 110, and after a good night's rest she felt better in every respect, suffered very little pain, and even had a return of appetite. On that night she asked the nurse for beef-steak, potatoes, and beer. Indeed, throughout the course of the disease the general symptoms seemed remarkably mild when the intensity of the local condition was taken into account and the extreme malignancy and fatality of the disease.

On the morning of the 7th, however, I found her moribund, death being immediately due to asphyxia. The attendants stated that she had passed a somewhat restless night, but was perfectly rational and inclined to take her nourishment at the prescribed intervals; that about 5 a. m. she became unconscious and rapidly sank into the condition in which I found her. The swelling had not increased in extent, and there was evidently no occlusion of the upper respiratory tract by swelling or otherwise. Death seemed to be due to a sudden overwhelming of the nerve centers in the medulla oblongata by the poison of the disease.

No post-mortem was allowed. It did not occur to me at the time to inoculate an animal with the virus, but there was really no need of such confirmation of the diagnosis. The case was in every respect a typical case of malignant pustule as described by the text writers.

The bedding, etc., used in the sick room was thoroughly disinfected or destroyed, the room also being disinfected (?) by sulphur and well washed with bichloride of mercury ($\frac{1}{1000}$).

On September 29 I was requested to visit a Mexican, Juan C., by trade a butcher, who two days previously had been bitten by an insect. On questioning the patient I found that he was not certain he had been bitten, but thought it probable. He had

felt a severe itching and stinging sensation on the left side of the neck, about 1½ inches above the middle of the left clavicle. The spot pointed out to me was probably the infection atrium, though this could not be exactly located owing to the fact that strong ammonia had been applied over the neck and had severely burned and changed the appearance of the skin in that region. There was, however, what Senn describes as "a flat infiltration without well-defined borders." This infiltrated area was several inches in diameter. There was an œdema of the tissues, extending in all directions from this area. The patient's friends said this had appeared on the day before I saw him and was extending rapidly. His neck was much swollen on both sides; and the tissues of the front and side of the chest about as far down as the lower ribs were œdematous and decidedly painful on pressure. The shoulders were swollen and also the back of the neck. The lymphatic glands on the affected side were enlarged. The temperature was 100° F.; the pulse 120, weak and almost imperceptible at the wrist; respiration rather rapid; vomiting; looseness of the bowels. The patient realized his critical condition and believed he would die soon, but seemed apathetic. His mind was, however, at this time perfectly clear. He complained of being cold, and said he had suffered with drenching sweats. He had no desire for food. His tongue was moderately coated; his breath offensive. The house in which this man lived was nearly a mile (entirely across the town of Rio Grande City) from the house in which the girl Mary D. lived, the latter being just outside of the post. Active antiseptic measures were at once instituted, as in the former case, though with small hope of success, owing to the great local extent of the disease and the evident systemic involvement. Supportive and stimulant food and drugs were given internally without stint. These were retained without difficulty, but though the œdema extended very little further the patient steadily sank and died in a comatose condition early on the morning of the 30th, seventy-two hours from the first observed symptoms.

A small amount of blood and subcutaneous cellular tissue from the middle of the infiltrated area was obtained and inoculated upon a healthy young rabbit, procured for the purpose. The animal died about eighteen hours after the injection. Blood was taken from the liver and spleen, and teased preparations from the liver, spleen, and cellular tissue stained with methyl blue and mounted in water. The slides were examined under a one-twelfth oil immersion lens (Leitz) and the bacillus anthracis discovered in moderate quantities. I expected to see very large numbers of the bacilli; that I did not was probably due to haste in examination and faults in technique, facilities for microscopic study here being rather limited and myself unskilled in the work.

DIARRHEAL AFFECTIONS.

The admission rate for these diseases was 94.77, as compared with 98.47 during the previous year and with 140.43 as the average annual rate of the preceding decade. One discharge and three deaths were caused by them, all among white troops; but the amount of constant sickness was small, as the majority of the cases were of short duration. One case in thirty was dysenteric, with an average duration of 11.5 days, the average duration of the others being only 3 days. These cases were most prevalent in the Department of Texas, where the admission rate was 197.52, and where the three fatal cases occurred. Camp Eagle Pass and Forts Hancock and Clark had the highest admission rates; the first, 426.23; the last, 361.34. Dysenteric cases occurring at Fort Clark were associated with malaria.

Private J. E., Troop F, Fifth Cavalry, was admitted to hospital August 6, 1894. Temperature on admission subnormal (not on record); much prostration; pain and frequent (half hourly) bloody discharges from the bowels. The patient's condition verged on collapse and continued so until the 14th instant, when the temperature rose to 99° in the evening (after the administration of quinin bisulphate 10 grains, morphin sulphate ½ grain, hypodermically). With this exception the temperature did not rise above the normal during the progress of the case. Examination of the blood was made on two days and spores similar to those found in the fever cases were found. The effect of the injections of quinin in causing a rise of temperature is notable. The possibility of a profound malarial infection was not suspected until the 13th instant. An earlier recognition of this might possibly have led to a different result.

Post-mortem examination by B. L. Ten Eyck, assistant surgeon, United States Army, fifteen hours after death: Emaciation marked; rigor mortis present. Tym-

panites, none. Large intestine, external appearance, peritoneal surface throughout injected, showing numerous small dilated blood vessels; on section mucous surface presented the appearance of general catarrhal inflammation. Spleen moderately enlarged; liver normal; small intestine normal. Other organs not examined.

Maj. George H. Torney reported a series of cases of toxic diarrhea among cadets at the United States Military Academy, West Point, N. Y., in November, 1894:

On the morning of the 21st instant 6 cadets and on that of the 28th instant 48 cadets were excused from duty because of disability resulting from toxic diarrhea. These cases by no means indicate the whole number of cadets affected, as there were many others who received medical treatment and were not excused. A careful inquiry into the possible cause of these outbreaks has led to the conclusion that they were due to poisonous milk supplied to the cadets in the mess hall at supper on the evening of the 20th and 25th instants. All the cases affected suffered from symptoms of like character, and these indicated tyrotoxicon, the poisonous ptomaine of milk as the substance which produced the attack in each case. In view of this conclusion I recommend that additional care be exercised in cleaning all utensils in which the milk in the mess is preserved, and that for a period of ten days all milk supplied to the cadet mess be sterilized by boiling.

Capt. William F. Spurgin, Twenty-first United States Infantry, commissary of cadets, commenting on the above remarks as follows: 'The manager of the dairy from which the milk for the cadets' mess is obtained has been informed of the sickness referred to. He states that "the utmost care is taken with everything connected with the milk. The stables have recently been cleansed and whitewashed, the cattle are always bedded, and ventilation is good. At the dairy the milk is at once aerated and cooled and drawn into cans which have previously been cleansed by the use of pearline water and then steamed, which must leave them in a perfectly clean condition. In fact, I do not know how I could improve on present methods of caring for the milk."

MALARIAL DISEASES.

The admission rate of the Army for malarial diseases during the year was 74.72, as compared with 93.64 in 1893 and 114.50, the average annual rate of the preceding decade. The nonefficiency for the year was 1.83, as against 2.45 in 1893. The rates of the negro troops were much lower than those of the white. Usually the Department of Texas has the greatest relative prevalence, but during the past year the Department of California had the highest malarial admission rate, 145.89 per thousand of strength. The exposure of the troops during their service in the railway riots of July and August, 1894, was certainly the cause of this increased prevalence in the Department of California. Nearly one-fourth of the malarial cases of the Army were remittents with an average duration of 21.5 days; the average duration of the intermittents was 5.75 days. The post having the highest admission rate was Washington Barracks, 598.10 per thousand of strength. Fort Myer followed with 573.71, Fort Hamilton with 343.30, Fort Brown with 316.67. Nonefficiency was greatest at San Carlos, 20.09; at Fort Clark, 11.12; at Washington Barracks, 9.07, and at Fort Brown, 8.70.

The prevalence of agues among the enlisted men at Washington Barracks while the officers and their families presented no symptom of malarial poisoning was attributed by the post surgeon to the use by the men of a path through an insanitary marsh on their way to and from town after dark.

The fever cases at Fort Clark were shown by Maj. H. S. Kilbourne to be of malarial origin. Examination of the blood discovered the presence of the plasmodium malarie. In a fatal case of dysentery also the malarial parasite was found. When this discovery was made the condition of the patient verged on collapse. The administration of quinin was followed by a rise in temperature. On post-mortem examination the small intestine appeared normal; the large intestine was injected

on its peritoneal surface and presented the appearance of general catarrhal inflammation on its mucous surface; spleen enlarged; liver normal; other organs not examined.

RHEUMATIC AFFECTIONS.

The admissions were 63.33 per thousand of strength, with a total of 24 discharges for disability. The rate of the previous year was 65.84, with 26 discharges; and the average annual rate of the preceding decade was 90.47, with 61.4 discharges. The 63.33 admissions consisted of 4.65 acute articular rheumatism, 13 chronic-rheumatic arthritis, and 45.68 myalgia and muscular rheumatism. The average duration of these per case was, respectively, 42.10, 26.20, and 10.40 days. These affections were evenly distributed among the departments, the greatest variation from the average of the Army being 38.76 admissions per thousand of strength in the Department of the Columbia. West Point, among the large posts, had the highest rate, 145.84, but some of the smaller posts, as Sandy Hook and Watervliet Arsenal, had rates in excess of this. Among the large posts Fort Wingate had the largest rate of constant sickness, 6.68 per thousand of strength.

VENEREAL DISEASES.

The admission rate for venereal diseases in the Army was 80.43 for the year, causing a rate of 5.32 constantly sick per thousand of strength and occasioning 36 discharges and 1 death. The admission rate was higher this year than it has been for a long time. In 1893 it was 73.08; in 1892, 76.73; in 1891, 72.46; in 1890, 75.22; and the average annual rate for the decade ending with the last mentioned year was 79.09. Although the number of admissions was greater than usual during the past year, the number discharged for disability was considerably less, 36, as compared with 53, 53.46, and 71, respectively, in the four years immediately preceding. These diseases were less frequent among the negroes than among the whites or Indians, the admission rates being, respectively, 47.46, 82.21, and 152.85. One seventh of the whole number of cases owed their origin to syphilitic infection and had an average duration per case of 40.17 days; one-sixth to chancroidal infection, with an average duration of 34.71 days, and over two-thirds to gonorrhoeal infection, with an average duration of 20.70 days.

The posts which had the highest admission rates were Fort Ringgold, 343.38, Columbus Barracks, 301.52, and Camp Eagle Pass, 278.70. Fort McIntosh, Jackson Barracks, and Fort Hancock had each over 20 per cent of their mean strength taken on sick report on account of these diseases. The rate of non-efficiency was highest at Columbus Barracks, with the rates of Forts Hancock and Ringgold and Camp Eagle Pass following in sequence, respectively, 24.86, 23.36, 22.84, and 20.03 per thousand of strength.

ALCOHOLISM.

The prevalence of alcoholism in the Army continues to decline. The admission rate for the past year was 30.94 per thousand of strength as compared with 33.97, 37.23, 40.01, 40.73, and 41.41 in the five preceding years, and with 56.68 in the decade ending with 1889. Again, in 1890 no less than 17 posts had more than 10 per cent of their average strength under medical care for drunkenness; in 1891, 11 posts; in 1892, 10; in 1893, 7, and during the past year only 4. Fort Ontario had the worst record. Its small garrison had a rate of 339.62 per

thousand of strength; but this was exceptional, for at the 3 other posts, Forts Preble, Brady, and Sidney, which exceeded 10 per cent, the rates per thousand were only 149.27, 112.43, and 106.38. Of the large posts Willets Point, Forts Omaha and D. A. Russell, and Washington Barracks had the worst records. The admission rate for the white troops as a whole was 33.79; for the negroes, 4.79. Eight deaths, all among white commands, resulted from the direct effects of alcohol; these do not include deaths from violence in drunken quarrels, etc.

Capt. E. L. Swift treated three cases of chronic alcoholism with hypodermic injections of .002 gram nitrate of strychnia three times a day, but in none was any satisfactory result obtained. There was a temporary improvement in each instance, but the men relapsed into their old habits within ten days after the cessation of medical observation and treatment.

Capt. W. H. Arthur reduced the statistics of alcoholism at Vancouver Barracks by dealing with drunkenness as with acute poisoning. He reported as follows:

The report of the Surgeon-General for the year ended June 30, 1892, mentions this post as having out of all the Army the highest rate of admission to sick report for alcoholism. The number of cases of simple acute alcoholism that appeared at sick call and during the day, when I first assumed charge of this hospital, was unusually large, and resulted in the laying down of certain rules in an effort to discourage drunkenness as far as it was in my power. No man is taken on the sick report or excused from any duty unless, in my opinion, his condition would make it actually dangerous for him to keep at work. I may say here that such cases are in my experience very rare, and that a mistaken pity for a man suffering from the effects of a debauch is liable very often to lead a too indulgent post-surgeon to excuse him from duty when the guardhouse, and not the hospital, is the proper place for him. I am confident that this mistaken kindness has done a great deal in the past to encourage drunkenness. Each man who has reported at the hospital in any stage of simple alcoholism is treated as a case of alcoholic poisoning, taken immediately to the operating room, his stomach emptied by the use of the stomach pump, and thoroughly washed out with warm 2 per cent soda solution. After this he is given a bowl of hot beef extract, with cayenne pepper, allowed an hour's rest, after which he is generally perfectly able, however unwilling, to do his duty. If the weather is severe, either very hot or very cold, it might not be safe in his depressed condition to force a man to work out of doors immediately after this procedure, but at this post the extremes are not great, and it has in no case resulted prejudicially to the patient. Occasionally some resistance is met with, but two, or at most three, able-bodied hospital corps men and a perforated wooden gag, such as comes with the stomach pump, will, with patience and determination, overcome almost any ordinary opposition. I have found for this purpose the gum elastic stomach tube in the old-fashioned stomach-pump case, connected with Allen's surgical pump, work very satisfactorily. The ordinary soft rubber lavage tube is too easily collapsed, and is more difficult to introduce when there is resistance.

The effect of this treatment has been uniformly excellent. The stomach emptied of its irritating contents and cleansed of the thick, tenacious mucus that is always present in such cases, is much less irritable and rarely rejects the beef extract which is given immediately; the nervous symptoms improve at once, and sedatives administered by the mouth have a far more prompt and lasting effect and in almost all cases the craving for liquor is very much diminished. Of course cases may occur which are too serious for such summary treatment. I have not met with any myself, and have used the stomach pump with good effect in cases even of delirium tremens and alcoholic coma. These cases, of course, are promptly taken into the hospital and treated as dangerously sick men. The deterrent effect of this treatment is excellent. It is, of course, not agreeable, though no one can deny that it is perfectly rational and merciful. In the past ten months but one man has been admitted to hospital for alcoholism. There are no doubt other factors that enter into the production of this marked change in the post in two years, but I am confident that this method of treating alcoholism as poisoning has been a very important, if not the principal one. I may add that in but one case has it been necessary to use this treatment on the same man more than once.

TUBERCULOSIS OF THE LUNGS.

Seventy five men were admitted to sick report during the year for consumption, 44 were discharged, and 17 died. The admission rate per thousand of strength was 2.96, as compared with 2.85 in 1893 and 4.34 in 1892. During the past three years consumption has been more prevalent in the Army than usual, on account of the susceptibility of the Indian to this disease. During the current year the rate will probably be lower than any of those just mentioned, on account of the mustering out of the Indian companies. The posts having the largest number of cases were Forts Bliss, Thomas, and Omaha, which had each 3, and Forts Leavenworth and Snelling, which had each 4.

PNEUMONIA.

This disease had its usual prevalence and fatality—87 cases, with 1 discharge and 18 deaths. The cases were scattered, the largest number at any one post being 4, which number was reached at Forts Sill and Sidney and at the Presidio of San Francisco.

Major Worthington reported from Fort Thomas, Ky., 2 cases of pneumonia successfully treated with guaiacol and strychnia. On the morning of the third day of the attack the temperature was 104.4° and rising, indicating the serious danger of the patient. Two cubic centimeters of guaiacol (Merks) applied with a camelshair brush to the inner side of the thigh induced perspiration within fifteen minutes and within an hour the temperature fell to 101.6° . In two hours it was 100.6° , and in three hours 100° ; the patient was no longer drowsy and felt altogether better. There was no indication in his pulse or voice that the profuse perspiration and rapid fall of the temperature had weakened him. There was, however, a marked pallor of his face, which continued for several days, with considerable emaciation. The temperature rose to 102° during the afternoon, but fell to 99.4° during the following night. Strychnin 0.001 was given hypodermically and whisky internally when the temperature was falling. Convalescence was uneventful. In a second case treated with 2 cubic centimeters of guaiacol profuse perspiration came on within thirty minutes and the temperature fell from 103° to 101.4° in an hour and to 100.8° during the second hour. Shortly after this the patient complained of chilliness, for which whisky and strychnia were given. The perspiration ceased and the temperature rose later, but was reduced by 0.650 Dover's powder. Favorable prognosis and convalescence dated from this time.

INJURIES.

The admission rate for injuries per thousand of strength was 244.21, with a total of 80 discharges (26 of which were for hernia) and 59 deaths. The rates for the various races did not vary much from the average, nor did those of the past year differ much from those of the preceding decade. Injuries to special parts constituted 240.90 of the totality of the admission rate and occasioned 28 of the deaths; general injuries, although contributing only 3.31 to the admission rate, occasioned 31 of the deaths. Contusions and sprains included over one-half of the cases, but caused only 1 death and 5 discharges. Fractures contributed 6.19 to the admission rate and caused 3 deaths and 11 discharges. The admissions for gunshot wounds were 3.39 per thousand of strength, with 21 deaths and 14 discharges; for wounds other than gunshot, 50.99, with 1 death and 6 discharges. Thirteen deaths were caused by crushing and 13 by drowning, the latter all accidental.

The posts having the highest proportion of injuries were the cavalry post, Fort Myer, with an admission rate of 537.85 per thousand of strength, and the cavalry recruiting depot, Jefferson Barracks, with 504.59. Those having the lowest proportion were Fort McPherson, with 92.48, and Madison Barracks, with 113.65; but the guard at Leavenworth prison had only 51.85.

Ten homicides were recorded—5 white, 3 colored, 2 Indians—8 by gunshot, 1 by fracture of skull, and 1 by stab wound of femoral artery.

Eighteen suicides were reported during the year, all among enlisted men—whites, 15; negro, 1; Indians, 2. The rate per thousand of strength, 0.65, compares favorably with 0.80 in 1893, 0.82 in 1892, and 0.83 in 1891. The 18 cases occurred at 17 different posts, 2 cases having occurred at Fort Leavenworth. Of the men 10 belonged to infantry, 5 to cavalry, 2 to artillery regiments, and 1 to the hospital corps. Three were under 25 years of age; 6 from 25 to 29; 4 from 30 to 34; 3 from 34 to 39, and 2 from 40 to 44 years. The nationalities were: United States, 9; German, 5; Irish, English, Austrian, and Belgian 1 each. Four cases occurred in the month of January, 3 in December, 2 each in March, April, May, and July, and 1 each in February, June, and September. Seven resorted to poison, 6 to gunshot, 3 to hanging, and 2 to crushing by railroad trains. Concerning causation: Temporary mental aberration, 3 cases; alcoholism, 3; domestic troubles, 2; fear of court-martial, 2; mental despondency, jealousy, and losses of money, 1 each; undetermined, 5.

INFLUENCE OF AGE, ARM OF SERVICE, NATIVITY AND LENGTH OF SERVICE ON SUSCEPTIBILITY TO DISEASE.

On pages 130-156 of this report is a series of tables based upon the statistics of the calendar years 1890-1894, which show the relation of certain specified diseases and classes of disease to arm of service, length of service, age, and country of birth of the soldiers composing the Army. The figures given in the tables are the average annual rates per thousand of strength for the period stated. The change in the personnel of our small Army takes place so rapidly on account of the short term of service, discharge by purchase, desertion and other drains, that the ratios may be regarded as the annual rates of an Army of 135,338 men instead of the average annual rates of one of 27,067 for a period of five years. These tables therefore are of greater value than those formerly published, although the absolute numbers under many of the headings are yet too small to give satisfactory ratios. The following tabulation concerning the 135,338 men will enable those interested to form an idea of the value to be attached to the rates given in the tables; at the same time it shows the average constitution of our Army from several points of view:

Arm of service.	Officers.	Enlisted men.	Per cent.
Infantry	4, 270	56, 551	44. 94
Cavalry	2, 128	30, 732	24. 28
Artillery	1, 409	16, 382	13. 14
Ordnance	288	2, 329	1. 93
Engineers	586	2, 227	2. 08
Medical	921	3, 812	3. 50
All others	1, 003	12, 700	10. 13
Total	10, 605	124, 733	
	135, 338		100

Age.	Officers.	Enlisted men.	Per cent.
19 years and under.....		1,435	1.05
20 to 24 years.....	518	25,843	25.73
25 to 29 years.....	1,792	39,673	29.81
30 to 34 years.....	1,618	21,626	17.18
35 to 39 years.....	1,543	11,289	9.49
40 to 44 years.....	1,343	8,391	7.01
45 to 49 years.....	1,206	5,610	4.61
50 to 54 years.....	1,477	1,734	2.37
55 to 59 years.....	911	283	.95
60 years and over.....	389	80	.31
Total.....	10,605	124,733	
	125,338		100

Nativity.	Officers.	Enlisted men.	Per cent.
United States.....	10,654	77,203	61.63
Irish.....	210	15,234	11.82
German.....	101	14,751	10.96
English.....	62	4,679	3.59
Canadian.....	59	2,364	1.79
Scandinavian.....	11	2,672	1.99
Scottish.....	34	1,039	.82
Swiss.....	11	1,031	.77
Austrian.....	6	1,003	.76
Italian.....		1,389	.98
French.....	22	454	.35
All others.....	36	2,395	1.89
Total.....	10,605	124,733	
	125,338		100

Length of service.	Officers.	Enlisted men.	Per cent.
Under 1 year.....	171	19,865	14.87
1 year and over.....	10,434	104,778	85.13
Total.....	10,605	124,733	
	125,338		100

The admission rate for all causes was much lower among officers (805.55) than among enlisted men (1,307.60) per thousand of strength, and very much lower among officers of the staff corps than among those of the line. Among the enlisted men the engineers had far the largest rate, 1,807.51; the hospital corps the smallest, 533.30. The rates of the cavalry and artillery were considerably above the mean; of the infantry and ordnance somewhat below it. Men under 25 years of age had by far the highest rates, those older than this having rates below the mean. The German rate was smaller than the Irish, and the latter smaller than that of the natives of the United States.

The rate of constant sickness was greater among officers, 47.86 per thousand of strength, than among the enlisted men, 39.23. It was higher both among officers and men of the cavalry and artillery than among those of the other corps. Nonefficiency among officers increased usually with age. Among enlisted men the lowest rates were found at the age of 30 to 40 years, and they were but little higher among those of 40 to 50 years. The highest rates were found among those under 25 and over 55 years of age. The nonefficiency of young men in their first year of service was 68.34, as compared with 33.69 of men older in the service. The highest rates were found among Canadians and natives of the United States; men of German and English birth had considerably lower rates.

The rate of discharge for disability, averaging 18.79, was highest in the artillery, 22.34; lowest in the engineers, 9.88.

The death rate was higher among officers, 9.91, than among enlisted men, 7.13; highest among officers of ordnance, 20.83; lowest among officers of artillery, 7.81. It was highest among men of the ordnance corps, 11.16; lowest among men of the engineers, 4.94. The death rate of officers under 25 years of age was small, 1.94; after 45 years of age the death rate of officers increased rapidly with advancing years. The death rate of enlisted men under 25 years of age was much higher than that of officers of corresponding age. After 40 years of age the death rate of enlisted men underwent a similar increase with advancing years. Soldiers of Irish birth had the highest death rate.

Restricting the point of view to disease, the admission rate of officers, 733.02, was considerably smaller than that of enlisted men, 1,044.38; but the cases of officers were of greater duration, giving a rate of constant sickness equivalent to 42.42 per thousand of strength, while the corresponding rate for enlisted men was only 30.67. The engineers had the highest admission rate, 1,458.58; but the artillery had the greatest nonefficiency from disease, 34.23. The rates of the men under 25 years of age were much higher than the average; those of men between 30 and 50 years of age were the lowest. The natives of the United States had higher rates than men of foreign birth. Men in their first year of service had more than twice the sickness of older soldiers.

The admissions for injuries were relatively greatest among the engineers and cavalry, and least in the hospital corps; greatest among young men and soldiers in their first year of service.

Typhoid fever was more prevalent among enlisted men than among officers, and particularly in the cavalry service, and among men under 25 years of age. Among officers the age of greatest susceptibility was higher than among enlisted men. The prevalence among Canadians, Scandinavians, Danes, and Swiss was considerably greater than among men of other nativities. The prevalence was greatest also among soldiers of less than one year's service.

Enlisted men suffered more than officers from malarial fever; but both officers and men of the cavalry and artillery were apparently more exposed than those serving in the other corps. In all the arms and corps those who suffered most were the men under 25 years of age and of less than one year of service. Nativity appears to have had little influence in predisposing to attack.

Rheumatic fever was nearly as prevalent among officers as among men. It was more common in the hospital and engineer corps than in the other branches of the service; more common among very young men and among those over 50 years of age than at intervening ages, and twice as common, both among officers and men, in the first year of service than among those who had served longer.

Consumption was considerably less common among enlisted men of the hospital corps than among the others. Its relative prevalence was greatest among officers under 25 years of age; among enlisted men it was greatest among those under 20 and over 55 years. When classed according to the country of birth the Scots had the largest ratio of cases.

The admission rates for venereal diseases were highest among enlisted men of the artillery; lowest in the hospital and ordnance corps; much above the average in men under 25; about the average in men from 25 to 30, and lessening in relative frequency in those over 30 years of age. The admission rate was much higher among Canadians and natives of the United States than among men of European birth.

Alcoholic excesses were relatively more frequent among men of the engineer corps than among others, 132.07, compared with the Army average of 38.35 per thousand of strength. Among officers the rates increased up to 40 years of age, and thereafter became diminished. Among enlisted men the diminution after 40 years of age was not manifested. The Danes, Swiss, and Scandinavians were comparatively temperate; the Irish had the highest record.

The prevalence of tonsillitis was twice as great among enlisted men as among officers. It affected the medical department slightly; the other corps about the average. The sufferers were mostly men under 25 years of age and in the first year of their service. Scandinavians and Danes appeared to be more susceptible than men of other nativities.

Diarrheal diseases were notably infrequent in the medical department as compared with the other branches of the service; most frequent among the engineers and among those under 25 years of age, and twice as common among men in their first year of service as among older soldiers.

The rates for coryza were higher among officers than among enlisted men; highest in the ordnance corps; lowest in the medical corps; highest among young soldiers and among men under 25 years of age.

Pneumonia was more common among men than among officers, particularly in the ordnance corps. Boys under 20 years of age and men over 45 had the greatest susceptibility.

Rheumatism and myalgia.—Officers and men were about equally liable to attack. The susceptibility was greatest among officers of the infantry and artillery; lowest among the engineers and ordnance corps. Among enlisted men the susceptibility was greatest in the ordnance and engineers, the tendency to attack increasing in all with age.

TROOPS ON ACTIVE SERVICE.

During the period July 3–18, 1894, a force of 10 troops of cavalry, 4 batteries of artillery, and 23 companies of infantry was stationed in Chicago, Ill., for the purpose of protecting Government property and restoring the mail service, which had been interrupted by rioters on the various railroads centering in the city. The medical department had with these troops 11 medical officers, 4 hospital stewards, 4 acting hospital stewards, and 25 privates. Maj. D. G. Caldwell was the senior medical officer present. A tent hospital of 30 beds was established at the camp on Lake Front. The wards were floored and furnished with field cots, blankets, and mosquito bars to keep off the flies which swarmed on the camp ground. Outlying detachments serving without attached medical attendance were visited daily by a medical officer, who held sick call and telegraphed to the field hospital for an ambulance in case it was found necessary to send in any of the sick for care and treatment.

The site of the camp on Lake Front was a triangular piece of made ground 1,500 yards long by 200 yards wide at the south and 50 yards at the north end, fronting on Michigan avenue and extending eastward to the Illinois Central Railroad on the lake shore. There were no shade trees for protection from the sun, and the coal ashes and all kinds of débris used in filling gave rise to a fine, black dust which was exceedingly unpleasant. The ground also emitted a disagreeable odor when disturbed by digging or watering with the hose. The surface sloped from the Michigan avenue side to the lake shore, but not enough to secure good drainage. Pits were dug in rear of the camp, with small

wooden buildings over them as latrines for the command. Water was supplied by hydrant and hose from the city water system. Barrels were furnished for the reception of garbage from the mess kitchens. The camp was well policed.

Acute diarrhea was unusually prevalent at all the stations, due in all probability to exposure to heat, change of diet, and the excessive use of hydrant water.

On the breaking up of the camp the sick in the field hospital were transferred to the post hospital at Fort Sheridan, Ill.

A concentration of troops was made about the same time at Sacramento, Cal. The force consisted of 2 companies of cavalry, 5 of artillery, 1 of infantry, and 3 of the marine corps, with 2 army and 2 navy medical officers, 3 noncommissioned officers, and 9 privates or nurses. Maj. B. F. Pope was senior medical officer. From July 10 to 27 the troops bivouacked in the Central Pacific Railroad station, sleeping when allowed on the asphalt pavement amid the heat and confusion of the overcrowded depot. After this they were placed in camp in the shop yards of the Southern Pacific Railroad Company near the depot. The ground was dry, hard, and very clean, shaded with eucalyptus trees and extensive lumber piles. Flooring was placed in the tents and mattress covers filled with hay were provided for the men. Water was furnished from the city mains. A hospital was established in the dining room of the depot. It was airy and well lighted, the windows large and shaded by inside shutters of latticework. Sheets, blankets, etc., were provided by the Pullman Car Company, and the mayor of the city placed the depot restaurant at the disposal of the hospital, so that special diets for the sick were procured with facility. The ambulance service sufficed to meet all emergencies. The health of the command was excellent during July the daily average under treatment for disease having been only 1 per cent of the mean strength. The diseases were mostly cases of heat exhaustion and diarrhea. All injuries were sent to the post hospital at the Presidio of San Francisco for treatment. The diarrhea which affected the men was attributed to excessive use of iced water, to which they were not accustomed. It was accompanied with colic and some prostration. In August malarial fevers of the quotidian type became common. Quinin, 20 grains daily, usually controlled them within twenty-four hours. The troops became so thoroughly infected that within three weeks after their return to the Presidio on September 3, 85 cases of fever were admitted to the sick report. The malarious exhalations came from a swamp near the shop yard.

MEDICAL DEPARTMENT OF THE NATIONAL GUARD.

The only memorandum relating to the medical department of the National Guard during the year appears in a report by Maj. B. F. Pope of his service with troops at Sacramento, Cal., during the railroad riots:

Before closing this report I have to say that in conjunction with this command one brigade of the National Guard of California was on duty at Sacramento. After getting into touch with the regulars these troops rapidly assimilated themselves to our methods. They instituted an excellent system of field cooking, paid more attention to the police of their camps, and for several weeks discharged their severe military duties as bridge guards and pickets with commendable enthusiasm and patience. The regiments, which had been recruited in the country districts, were composed of men of large build, muscular and hardy. With experienced officers they would have been reliable under any conditions. Their medical officers frequently visited our field hospital and expressed great admiration at our medical, surgical, and personal equipment. I took pleasure in extending to them our facilities for transportation of sick and wounded, and in affording them such surgical assistance as we were

able to render. The equipment of the medical department of the guard was as good as the voluntary contributions of the medical staff and its friends could expect. They were alive to its deficiencies, due to want of money appropriations by the State, and compensated as well as they could for this lack. Many hospital corps ponches patterned after our own were extemporized, and bearers wearing the regulation brassard were plentiful. They had no litter nor ambulance equipment. Their experience was of undoubted value to them, but I think the prevailing sentiment was decidedly averse to long absence from business and home with the loss of time and money which their service entailed.

Many Army medical officers came into close relations with the prominent officers of the medical department of the National Guard at the fifth annual meeting of the Association of United States Military Surgeons. This meeting, at which I had the honor to preside, was held in Buffalo, N. Y., in May last. The subjects discussed related mainly to the arrangement for the treatment of sick and wounded in active service under the changed conditions produced by smokeless powder and long-range projectiles. The committee work of this association is a powerful factor in bringing state and national medical officers into intimate contact and in assimilating the methods of the one to those of the other.

CIVILIANS ATTACHED TO THE ARMY.

The civilian attachés of the Army comprise the families of officers and enlisted men, servants, employees of the various departments and their families, and all persons not included in the personnel of the Army who are allowed to reside at military stations or to accompany military commands. The average number of these present during the year was: Adult males, 2,607; adult females, 5,631; children, 6,272; total 14,510. The deaths that occurred among them are shown in the following tabular statement:

Diseases.	Adult males.	Adult females.	Children.	Total.
Infectious diseases, general and local.....	5	8	14	27
Local infections (also entered under diseases of organs) *.....	1	8	8	15
Diseases of general nutrition		2	7	9
Nervous system, diseases of		1	7	8
Digestive	3	2	24	29
Circulatory	1	4		5
Respiratory		2	9	11
Genito urinary	1	3	2	6
Integumentary		1		1
Total from disease	10	23	63	96
Total from injury	3		4	7
Unknown.....			2	2
Total from all causes	13	23	69	105

* Deaths from local infections (also entered under diseases of organs) are as follows: Acute dysentery, under digestive, females, 1; children 2. Peritonitis, under digestive, males, 1; females, 1; children, 2. Pneumonia, croupous, under respiratory, females, 2; children, 4. Endocarditis, under circulatory, females, 2.

MARRIAGES AND BIRTHS.

On the reports were noted 34 marriages, 7 of officers, 25 of enlisted men, 2 of civilian attachés. The births reported numbered 439—male, 212; female, 227. Eighty-four were children of officers, 307 of enlisted men, 48 of civilians. Twenty-one Indian children, 9 males and 12 females, born at Mount Vernon Barracks, Ala., and Fort Sill, Okla., are included in the total.

CLASSIFICATION OF DISEASES.

Until recently the classification of diseases and injuries in use by this office was based on that of the College of Physicians of England. This system, which was adopted a number of years ago, is now inconsistent in many points with our present knowledge of the causation and processes of disease. Such divisions and subdivisions as zymotic, miasmatic, enthetic, zoögenous, etc., belong to a past era in the progress of medical knowledge, and should be used only in connection with matters relating to the history of medicine. I have therefore drawn up a new system of classification in which the causes of disability are aggregated into five principal classes: (1) Infectious diseases, general and local; (2) diseases of nutrition, general; (3) structural and functional diseases of organs; (4) accidents and injuries; (5) unclassified.

Among the "infectious" I have placed many that are at present unhesitatingly reported as diseases of particular organs, as tonsillitis, pericarditis, endocarditis (see list below, Nos. 39 to 59, inclusive); but since to disrupt these from their old connections at once and positively might involve too much of a strain on conservative minds I have printed the names in *italic*, with cross references to their position in older systems, that they may be recorded under both headings and summed up in either according to the requirements of the statistician. Developmental diseases and the refractive errors of the eye have been dropped from the new system, as men having such disabilities are not accepted for service. Of the diarrheal diseases of the old list, acute dysentery has been placed among the infectious diseases, the others among the diseases of the digestive system. Septic, venereal, and zoögenous diseases also have been placed among the infectious diseases, excepting venomous bites, stings, and wounds, which have been placed among the general injuries. The dietic class has been broken up by placing scurvy among the diseases of nutrition, and the others, such as acute and chronic alcoholism, delirium tremens, and the drug habit, among diseases of the nervous system. The class of parasitic diseases has also been broken up, scabies being placed among local infections of the skin; tenia, etc., among diseases of the digestive organs, and trichinosis among general infections. I have made but slight changes in the list of diseases of particular systems and organs, omitting a few titles that have been found unnecessary for military purposes, and altering the position of some, as, for instance, "hernia," transferred from diseases of the digestive system to accidents and injuries.

The following is the list now in use:

Classified list of causes of admission to sick report.

I.—INFECTIOUS DISEASES, GENERAL AND LOCAL.

- | | | |
|---------------------|---|---|
| 1. Scarlet fever. | 15. Cholera. | 27. Rheumatic fever.* |
| 2. Measles. | 16. Yellow fever. | 28. Tetanus. |
| 3. Rötheln. | 17. Cerebrospinal meningitis. | 29. Tuberculosis of the lungs. |
| 4. Variola. | 18. Malarial fever, intermittent. | 30. Tuberculosis of other organs. |
| 5. Varioloid. | 19. Malarial fever, remittent or continued. | 31. Carcinoma.* |
| 6. Vaccinia. | 20. Malarial fever, pernicious. | 32. Sarcoma.* |
| 7. Varicella. | 21. Malarial cachexia. | 33. Trichinosis. |
| 8. Typhus fever. | 22. Fevers of undetermined causation. | 34. Syphilis. |
| 9. Influenza. | 23. Anthrax. | 35. Gonorrhea. |
| 10. Dengue. | 24. Glanders. | 36. Gonorrheal epididymitis and orchitis. |
| 11. Mumps. | 25. Erysipelas. | 37. Chancroid and results. |
| 12. Whooping cough. | 26. Septicemia. | 38. Other diseases of this class. |
| 13. Diphtheria. | | |
| 14. Typhoid fever. | | |

* Etiology not determined: probably due to parasitic infection.

Age.	Officers.	Enlisted men.	Per cent.
19 years and under.....		1,435	1.06
20 to 24 years.....	516	35,648	26.72
25 to 29 years.....	1,732	38,673	29.84
30 to 34 years.....	1,618	21,626	17.18
35 to 39 years.....	1,562	11,263	9.48
40 to 44 years.....	1,242	8,281	7.04
45 to 49 years.....	1,208	5,610	5.04
50 to 54 years.....	1,477	1,734	2.37
55 to 59 years.....	911	383	.96
60 years and over ...	339	80	.81
Total.....	10,605	124,733	
	135,338		100

Nativity.	Officers.	Enlisted men.	Per cent.
United States.....	10,054	77,282	64.53
Irish.....	210	15,384	11.52
German.....	101	14,751	10.98
English.....	62	4,679	3.50
Canadian.....	59	2,320	1.76
Scandinavian.....	11	2,672	1.96
Scotch.....	34	1,080	.82
Swiss.....	11	1,031	.77
Austrian.....	6	1,352	1.00
Danish.....		1,323	.98
French.....	22	464	.36
All others.....	35	2,395	1.80
Total.....	10,605	124,733	
	135,338		100

Length of service.	Officers.	Enlisted men.	Per cent.
Under 1 year.....	171	19,955	14.87
1 year and over.....	10,434	104,778	85.13
Total.....	10,605	124,733	
	135,338		100

The admission rate for all causes was much lower among officers (805.55) than among enlisted men (1,307.60) per thousand of strength, and very much lower among officers of the staff corps than among those of the line. Among the enlisted men the engineers had far the largest rate, 1,807.51; the hospital corps the smallest, 533.30. The rates of the cavalry and artillery were considerably above the mean; of the infantry and ordnance somewhat below it. Men under 25 years of age had by far the highest rates, those older than this having rates below the mean. The German rate was smaller than the Irish, and the latter smaller than that of the natives of the United States.

The rate of constant sickness was greater among officers, 47.86 per thousand of strength, than among the enlisted men, 39.23. It was higher both among officers and men of the cavalry and artillery than among those of the other corps. Non-efficiency among officers increased usually with age. Among enlisted men the lowest rates were found at the age of 30 to 40 years, and they were but little higher among those of 40 to 50 years. The highest rates were found among those under 25 and over 55 years of age. The non-efficiency of young men in their first year of service was 68.34, as compared with 33.69 of men older in the service. The highest rates were found among Canadians and natives of the United States; men of German and English birth had considerably lower rates.

The rate of discharge for disability, averaging 18.79, was highest in the artillery, 22.34; lowest in the engineers, 9.88.

The death rate was higher among officers, 9.91, than among enlisted men, 7.13; highest among officers of ordnance, 20.83; lowest among officers of artillery, 7.81. It was highest among men of the ordnance corps, 11.16; lowest among men of the engineers, 4.94. The death rate of officers under 25 years of age was small, 1.94; after 45 years of age the death rate of officers increased rapidly with advancing years. The death rate of enlisted men under 25 years of age was much higher than that of officers of corresponding age. After 40 years of age the death rate of enlisted men underwent a similar increase with advancing years. Soldiers of Irish birth had the highest death rate.

Restricting the point of view to disease, the admission rate of officers, 733.02, was considerably smaller than that of enlisted men, 1,044.38; but the cases of officers were of greater duration, giving a rate of constant sickness equivalent to 42.42 per thousand of strength, while the corresponding rate for enlisted men was only 30.67. The engineers had the highest admission rate, 1,458.58; but the artillery had the greatest nonefficiency from disease, 34.23. The rates of the men under 25 years of age were much higher than the average; those of men between 30 and 50 years of age were the lowest. The natives of the United States had higher rates than men of foreign birth. Men in their first year of service had more than twice the sickness of older soldiers.

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Typhoid fever was more prevalent among enlisted men than among officers, and particularly in the cavalry service, and among men under 25 years of age. Among officers the age of greatest susceptibility was higher than among enlisted men. The prevalence among Canadians, Scandinavians, Danes, and Swiss was considerably greater than among men of other nativities. The prevalence was greatest also among soldiers of less than one year's service.

Enlisted men suffered more than officers from malarial fever; but both officers and men of the cavalry and artillery were apparently more exposed than those serving in the other corps. In all the arms and corps those who suffered most were the men under 25 years of age and of less than one year of service. Nativity appears to have had little influence in predisposing to attack.

Rheumatic fever was nearly as prevalent among officers as among men. It was more common in the hospital and engineer corps than in the other branches of the service; more common among very young men and among those over 50 years of age than at intervening ages, and twice as common, both among officers and men, in the first year of service than among those who had served longer.

Consumption was considerably less common among enlisted men of the hospital corps than among the others. Its relative prevalence was greatest among officers under 25 years of age; among enlisted men it was greatest among those under 20 and over 55 years. When classed according to the country of birth the Scots had the largest ratio of cases.

The admission rates for venereal diseases were highest among enlisted men of the artillery; lowest in the hospital and ordnance corps; much above the average in men under 25; about the average in men from 25 to 30, and lessening in relative frequency in those over 30 years of age. The admission rate was much higher among Canadians and natives of the United States than among men of European birth.

strength; 8, distribution of these important diseases among the corps and arms of the service; 9, their monthly prevalence: and 10, deaths from disease, accidents, or injuries and suicide according to age and years of service.

I have examined these tables and approved of them with certain modifications, the chief of which is the consolidation of the second with the third, and of the sixth with the seventh, as giving a better view of the facts represented. The commission suggested that the various departments begin publication with the statistics of the calendar year 1895; but as all the needful data were readily available in this office I have the honor to submit in this report the statistics of the past year in eight tables such as will satisfy the requirements of the commission and permit of ready comparison with the medical statistics of other countries.

List of special reports received from medical officers from January 1, 1894, to June 30, 1895.

MEDICAL REPORTS.

Name.	Rank.	Report.
Arthur, Wm. H.	Captain and asst. surgeon...	Alcoholism; method adopted for its cure.
Bal' R. R.	do	Continued malarial fever, thermograph.
Bamster, W. B.	do	Report on Texas fever, with thermographs.
Bowles, S. W.	Attending surgeon	Report of vaccinations.
Bradley, A. E.	Captain and asst. surgeon...	Influenza at Fort Sally, S. Dak.
Brooke, Benjamin ..	1st lieut. and asst. surgeon..	Typhoid fever at Camp Pilot Butte, Wyo.
Clendinning, Paul	Captain and asst. surgeon...	Insanity; relapsing mania.
Connegys, E. T.	Major and surgeon	Typhoid fever, with thermograph.
Craig, G. G.	Attending surgeon	Continued malarial fever; thermograph only.
Davis, W. B.	Captain and asst. surgeon..	Phthisis; thermograph; death.
De Shon, G. D.	1st lieut. and asst. surgeon..	Report on Hospital Militar de Matamoras.
Fisher, Henry C.	do	Special symptom observed in typhoid fever.
Forwood, W. H.	Lieut. col. and dep. surg. general.	Diphtheria at Fort Yates, N. Dak.
Gibson, J. R.	Major and surgeon	Chronic pneumonia; thermograph.
Girard, A. C.	do	Millary tuberculosis; thermograph; death and autopsy.
Gorman, W. C.	Captain and asst. surgeon...	Hemorrhoids.
Hoff, J. Van R.	Major and surgeon	Typhoid fever; death and autopsy; 2 cases.
Ives, Frank J.	Captain and asst. surgeon...	Premature labor, artificially induced.
Keen, J. R.	do	Cataract, left eye.
Kieller, Charles F.	1st lieut. and asst. surgeon..	Bronchial catarrh, subacute.
Kilbourne, H. S.	Major and surgeon	Nervous prostration.
Lippitt, W. F., Jr.	1st lieut. and asst. surgeon..	Simple continued fever, with thermograph.
Mason, Charles F.	Captain and asst. surgeon...	Essential anemia, with thermograph.
Matthews, W.	Major and surgeon	Melancholia; 4 cases.
Maus, L. M.	do	Typhomalarial fever; death; autopsy; thermograph.
McCreery, George	Captain and asst. surgeon...	Acute dysentery (malarial); death; autopsy; thermograph.
McCullough, C. C.	1st lieut. and asst. surgeon..	Simple continued fever; 7 thermographs.
McElderry, Henry	Major and surgeon	Variola at St. Paul, Minn.
Mearns, E. A.	Captain and asst. surgeon...	Diphtheria; treated by antitoxin.
Newgarden, G. J.	1st lieut. and asst. surgeon..	Feigned amblyopia.
Pennebaker, Benj.	Attending surgeon	Epidemic catarrh at Fort Wingate, N. Mex.
Pilcher, James E.	Captain and asst. surgeon...	Typhoid fever in western Texas, with thermographs.
Pope, Benj. F.	Major and surgeon	Special symptoms observed in typhoid fever.
Price, C. E.	do	Texas fever.
		Anthrax; death; 2 cases.
		(25 thermographs): Quotidian intermittent fever, 7; tertian intermittent fever, 5; remittent fever, 10; quotidian intermittent and remittent fever, 1; typhoid fever, 2.
		Report of vaccinations.
		Chronic nephritis and mitral regurgitation; death; autopsy.
		Locomotor ataxia.
		Remittent fever; 2 cases.
		Typhoid fever.
		Urinary suppression, following a surgical lesion of the rectum; recovery after 7 days' suppression.
		Intestinal perforation, tubercular; death and autopsy.

*List of special reports received from medical officers, etc.—Continued.***MEDICAL REPORTS—Continued.**

Name.	Rank.	Report.
Raymond, H. I.....	Captain and asst. surgeon...	Typhoid fever at Fort Washakie, Wyo.
Richard, Charles.....	.....do	Typhoid fever at Fort Leavenworth Military Prison, with thermographs.
Strong, Norton.....	.....do	Epidemic influenza at Fort Meade, S. Dak.
Swift, E. L.....	.....do	Treatment of the liquor habit by nitrate of strychnia; 3 cases.
Taylor, B. D.....	Major and surgeon.....	Quotidian intermittent fever.
Ten Eyck, B. L.....	Captain and asst. surgeon...	Acute dysentery; death; autopsy.
Tesson, L. S.....	Major and surgeon.....	Endocarditis; death; autopsy.
Tilton, H. R.....	.....do	General tuberculosis; thermograph; death; autopsy.
		Tuberculosis, left lung.
		Acute miliary tuberculosis; thermograph; death; autopsy.
		Ephemeral fever; thermograph.
		Hypertrophy of heart; death; autopsy.
		Pleuro-pneumonia; thermograph; death; autopsy.
		Pneumonia; thermograph.
		Chronic alcoholism; death.
Torney, G. H.....	.....do	Catarrhal conjunctivitis among cadets at West Point, N. Y.
Turrill, H. R.....	.....do	Cancer of pylorus; death; autopsy.
		Paresis.
Vickery, R. S.....	.....do	Typhoid fever; death; autopsy.
Wakeman, Wm. J.....	Captain and asst. surgeon...	Fatty degeneration of heart; death.
Waters, W. E.....	Major and surgeon.....	Measles.
Woodson, R. S.....	1st lieut. and asst. surgeon..	Syphilis.
Worthington, J. C.....	Major and surgeon.....	Insanity.
		Tuberculosis, lungs and mesentery; thermograph; death; autopsy.
		Pneumonia, treated with cold applications; guaiacol and strychnin; 2 cases.
Wyeth, M. C.....	Captain and asst. surgeon...	Iritis.

SURGICAL REPORTS.

Arthur, Wm. H.....	Captain and asst. surgeon...	Post cæcal abscess; operation; thermograph; recovery.
Banister, W. B.....	.....do	Gunshot wound, arm and chest; recovery.
		Coma from the use of narcotics; death.
Birmingham, H. P.....	.....do	Gunshot wound of toe.
Bradley, A. E.....	.....do	Gunshot wound, neck and thigh.
		Appendicitis; operation; recovery.
Brown, J. M.....	Major and surgeon.....	Amputation, upper third left leg; thermograph.
Corson, J. K.....	.....do	Gunshot wound of finger.
De Loffre, A. A.....	.....do	Gunshot wound of brain; death and autopsy.
De Shon, G. D.....	1st lieut. and asst. surgeon..	Thigh amputation; recovery.
		Pistol-shot wound, left forearm; amputation; traumatic erysipelas.
Ebert, R. G.....	Captain and asst. surgeon...	Penetrating gunshot wound of skull; thermograph; recovery.
		Opium poisoning treated by permanganate of potash, hypodermically; recovery.
Gandy, C. M.....	.....do	Concussion and laceration of brain; thermograph; death.
Heizmann, C. L.....	Major and surgeon.....	Penetrating pistol-shot wound of abdomen; thermograph; death.
Hoff, J. Van R.....	.....do	Appendicitis; operation; death and autopsy.
		Lacerated wound of right lung and liver; explosion of Hotchkiss gun; death.
Kieffer, C. F.....	1st lieut. and asst. surgeon..	Acute appendicitis; operation; thermograph; recovery.
Mason, C. F.....	Captain and asst. surgeon...	Spontaneous dislocation of left shoulder.
Maus, L. M.....	Major and surgeon.....	Abscess of liver treated by incision and drainage; thermograph; recovery.
Pope, B. F.....	.....do	Penetrating wound of skull; death.
Robinson, S. Q.....	Captain and asst. surgeon...	Brief notes on cases; gunshot wound; floating cartilage in knee joint.
Swift, E. L.....	.....do	Sulphonal poisoning; death.
		Traumatic erysipelas.
Taylor, B. D.....	Major and surgeon.....	Chronic empyema; traumatic; death and autopsy.
		Gunshot wound, left knee joint; death.

List of special reports received from medical officers, etc.—Continued.

SURGICAL REPORTS—Continued.

Name.	Rank.	Report.
Tilton, H. R.....	Major and surgeon	Fracture of left leg; railroad accident; amputation; reamputation; pyæmia; death. Fracture of fifth cervical vertebra; hemorrhage and concussion; thermograph. Incised wounds. Fracture of seventh and eighth ribs; death. Pistol-shot wound, groin and thigh. Therapeutic notes: double hydrocele; scrofulous ulcers. Ischio-rectal abscess.
Turrill, H. R	do	Gunshot wound of abdomen; death and autopsy.
Walters, F. G.....	Hospital steward	Compound comminuted fracture, tibia and fibula; shock; death and autopsy.
Waters, W. E.....	Major and surgeon	Fracture of clavicle. Axillary aneurism; ligation of subclavian artery; recovery.
Wilcox, T. E.....	do	Penetrating incised wound of abdomen, with protrusion of viscera; thermograph; recovery.
Winne, C. K.....	do	Gunshot wound of thorax; death and autopsy.
Winter, F. A.....	1st lieut. and asst. surgeon..	Gunshot wound of left subclavicular region.
Woodhull, A. A.....	Major and surgeon	Angiosarcoma, right kidney; death; autopsy; thermograph.
Woodson, R. S.....	1st lieut. and asst. surgeon..	Erysipelas; its etiological relation to pyæmia.
Worthington, J. C.....	Major and surgeon	Eucysted bullet; removed after 9 years; negative results with telephonic bullet probe. Appendicitis; laparotomy; thermograph; death and autopsy. Appendicitis; laparotomy; thermograph; recovery.

SURGICAL OPERATIONS.

During the year the Medical Department of the Army reported 401 surgical operations, 111 of which were necessitated by injuries and 290 by disease.

The number, character and results of these are shown in the following statement:

Nature of operation.	Disease or injury.	Total.	Recovered.	Died.	Remarks.
Removal of tumors		40			
Enucleation	Sebaceous, 11; encysted, 7; epithelioma, 4; perichondroma, 2; hematoma, 1; fleshy, 1; fibroid, 1; papilloma, 1; adenofibroma, 1; lipoma, 1; chondroma, 1; fatty, 4; lupus, 1; horny growth, 1; condyloma, 3.	40	39	1	Buttock, 2; thigh, 1; scapula, 2; scalp, 2; lumbar region, 1; nose, 1; leg, 2; wrist, 2; chest, 5; hip, 1; lip, 4; tongue, 1; neck, 4; face, 5; arm, 1; eyebrow, 1; occiput, 1; finger, 1; penis, 3.
Opening of abscesses		43			
Incision	Bubo, venereal, 7; nonvenereal, 4; whitlow, 8; tonsillar, 3; perityphlitic, 1; cellulitis, 1; adenitis, 1; tubercular, 1; chronic, 1; caries, 2; venereal, 2; subcutaneous, 13.	44	43	1	Perineum, 1; penis, 2; feet, 2; groin, 11; coccyx, 1; iliac region, 1; scrotum, 1; tonsils, 3; fingers, 10; fibula, 2; thigh, 2; face, 2; shoulder, 2; elbow, 1; neck, 2; abdomen, 1.
Curetted.....	Suppurating sinus..	1	1	.....	Leg, 1.
Operations on the eye		16			
For cataract		1	1	.....
For pterygium		3	3	.....
For trachoma.....		1	1	.....
Slitting of lachrymal duct ..		1	1	.....
For chalazion.....		3	3	.....
For cystic tumor.....		2	2	.....
Foreign bodies		5	5	.....

Nature of operation.	Disease or injury	Total.	Recov- ered.	Died.	Remarks.
Operations on the nose.		5			
For nasal polyp.		2	3		
For hypertrophied septum.		1	1		
For deflected septum.		1	1		
Operations on the mouth.		2			
Removal of tonsils.		1	1		
Amputation of uvula.		1	1		
Operations on the veins.		8			
For varicocele.		8	8		Ligature.
Operations on the arteries.		2			
Ligation of subclavian.	Axillary aneurism.	1	1		
Ligation of radial.	Lacerated wound.	1	1		
Operations on the respira- tory organs.		4			
Paracentesis.	Hydrothorax.	4	4		
Operations on the digest- ive organs.		49			
For fistula in ano.		7	7		
For prolapse of rectum.		1	1		
For hemorrhoids.		34	34		Incision, 14, thermo- cautery, 1, cautery, 1; ligature, 10; clamp and cautery, 8.
Laparotomy.	Appendicitis, 4; in- testinal obstruc- tion, 1 gunshot wound of abdo- men, 1	6	3	3	
Intestines sutured.	Injured wound of abdomen.	1	1		
Operations on the lym- phatic glands.		28			
Removal of glands.	Venereal, 10, aden- itis, 3 lymphade- nitis, 1, non-spe- cific adenitis, 2 unknown, 1.	17	17		
Curetted.	Venereal, 9, lym- phosarcoma, 1, nonspecific bubo, 1	11	11		
Operations on the urinary organs.		29			
For stricture of urethra.					
Internal urethrotomy.	Gonorrhea.	11	11		
External urethrotomy.	do.	1		1	Death from pyemia.
Meatotomy.	Gonorrhea, 3 con- genital, 1 not stated, 2	6	6		
Incision.	Gonorrhea, 4, con- genital, 1, not stated, 1	6	6		
Dilatation.	Gonorrhea.	3	3		
Aspiration of bladder.	do.	1	1		
Median lithotomy.	Enlarged prostate.	1	1		
Operations on the genera- tive organs.		26			
For phimosis.	Gonorrhea, 5, con- genital, 7, syphi- lis, 1 not stated, 1.	14	14		
For redundant prepuce.		7	7		
For paraphimosis.	Gonorrhea.	1	1		
For hydrocele.		3	3		Aspiration, 1; Volk- mar's operation, 1; injection of carbolic acid, 1.
Excision of testicles.	Orchitis, tubercular.	1	1		Right testicle.
Operations on bones.		19			
Removal of portions.	Exostosis, 1 frac- ture, 1 necrosis, 7 gunshot wound, 1 hypertrophy, 1	11	10	1	Humerus, 1 foot, 2 finger, 1 rib, 1 inferior max- illary bone, 2 femur, 1, tibia and fibula, 1, tuberculated bone, 1, cranium, 1.
Reduction and manipulation of fractures.		8	8		Tibia and fibula, 2; frontal bone, 1, clavicle, 3, radius, 1; Colles's fracture, 1.
Operations on joints.		30			
Reduction of dislocations.		27	26	1	Hip, 1; shoulder, 11; clavicle, 3, scapula, 1, elbow, 6; ankle, 1; thumb, 1; fingers, 2; wrist, 2.

Nature of operation.	Disease or injury.	Total.	Recovered.	Died.	Remarks.
Operations on joints--Continued.					
For ankylosis		1	1		Finger, 1.
Removal of loose bodies		1	1		Knee, 1.
Joint resected	Lacerated wound of finger.	1	1		
Operations on the limbs ..		41			
Amputation for injury:					
Arm	Railroad injury, 1; injury, 1.	2	1	1	Primary, 1; secondary, 1.
Forearm	Gunshot	1	1		Secondary, 1.
Fingers	Injury, 12; frost-bite, 3; shot, 9.	24	24		Primary, 16; secondary, 8.
Thumb	Injury, 2; shot, 2.	4	4		Primary, 3; secondary, 1.
Leg	Fracture 3; railroad accident, 1.	4	3	1	Primary, 2; secondary, 2.
Feet	Frostbite, 1; railroad accident, 1; injury, 1.	3	3		Primary, 2; secondary, 1.
Toes	Shot, 1; injury, 1.	2	2		Primary, 1; secondary, 1.
Amputation for disease:					
Thigh	Septic arthritis.	1	1		Secondary, 1.
Operations on the muscles and tendons.		4			
Tenotomy	Hammer-toe	1	1		
Tendon sutured	Lacerated wound.	1	1		
For muscular contraction.		1	1		Sterno-clavicle muscle.
Deep dissection in axilla.	Shot injury to muscles and nerves.	1	1		
Operations on the skin, etc.		53			
Ingrown nails		21	21		
Removal of nails		19	19		
Removal of foreign bodies ..		10	10		
Removal of corns		1	1		Excision.
For severe lacerated wound.		1	1		Face; 21 silk sutures.
For removal of gangrenous flesh.		1	1		Fingers.

The reports of operations performed show that medical officers are fully alive to the requirements of modern aseptic surgery, and even at isolated and frontier posts have endeavored to carry out the principles of asepsis with the apparatus at hand. The hospital of every military post should at all times be prepared for "emergency cases." In accordance with circular of May 18, 1895, from this office, a room is, if possible, to be set aside in every hospital as an operating room. Especial attention is to be given to the cleanliness of this room, including its walls and floors, as well as the necessary furniture; and in it are to be kept all the instruments and dressings, antiseptics, anesthetics, and appliances that may be needed in an emergency—for most of the surgical cases treated in military hospitals are of this character.

Abstracts of some of the surgical reports are given herewith as of interest to medical officers:

Lieut. Col. H. R. Tilton reported an amputation of the left leg in a case of crushing by the wheels of a trolley car. The operator considered that a long external and a short internal flap would furnish sufficient covering to warrant cutting through the bones $2\frac{1}{2}$ inches below the spine of the tibia. Two ounces of whisky were given before etherization, and during the operation one-fortieth of a grain of atropia and 10 minims of tincture of digitalis were used hypodermically. Sloughing of the stump occurred on the ninth day, and on the fifteenth a second amputation was performed in the middle of the thigh; but the pulse and temperature continued high, and on the twenty-second day delirium, jactitation, and subsultus set in. Death occurred ten days after.

A case reported by Capt. A. E. Bradley was more successful, although even in this due consideration was not given to the destructive effects of the crushing. The bones of the left leg in this instance were comminuted by the fall of the roof of a wagon shed, carried away during a wind storm. There was also a comminution of the right internal malleolus. The left leg was amputated by the modified circular flap method, section being made at the uppermost fracture of the tibia about 4 inches below the knee joint. Strict antisepsis was observed. The right ankle was placed in a felt splint. On the fourth day, as the patient's temperature continued over 100° F., the dressing was removed, when the whole stump from the knee down was found to be black and covered with bullæ, gangrenous to such an extent that the case looked hopeless. Chloroform, to primary anæsthesia, was administered; multiple punctures were made with a tenotome, withdrawing a considerable quantity of blood; the stitches were loosened, the antiseptic dressings replaced, and the stump elevated. For several days complete death of the parts seemed unavoidable. Ultimately the distal portions of the flaps sloughed and repair followed by granulation tissue with no pus. Stimulating applications, such as carbolized oil and weak solutions of nitric acid, were used with benefit.

Maj. B. D. Taylor reported from Fort Bliss, Tex., a case which suggests the desirability of having every soldier taught the elements of first aid in injuries. A soldier shot himself accidentally with No. 8 shot, the muzzle of the gun at the time of the explosion resting against his left leg immediately below the knee. The vessels were lacerated and the tibia and fibula comminuted. The man was alone and about a mile and a half from the post, but by using his gun as a crutch he was able to progress slowly until within half a mile of the hospital, when he was seen and assistance was sent to him. The hemorrhage had been excessive, but the injured man, though able to do so much for himself, was ignorant of how to check it. After stimulating him for some hours amputation was performed 3 inches above the knee. He died of collapse a few hours after the operation.

Maj. A. A. De Loffre amputated in the lower third of the thigh for a septic arthritis of the knee in a civilian at Fort Logan, Colo. The aseptic method was employed, with anterior and posterior flaps, silk for ligatures and sutures, and dressings of cheesecloth, absorbent cotton and gutta-percha tissue. They were removed on the ninth day, when the line of junction was found united except at two small points, where the skin was puckered and did not come together properly.

Maj. B. F. Pope reported an amputation of the right arm and a partial resection of the maxillary bones in an unpromising case of injury in a railroad wreck caused by strikers. The left elbow of the patient also was crushed and the brachial artery lacerated. Death occurred from collapse shortly after the operation.

The only case of amputation of the forearm reported was by Capt. G. D. De Shon, at Fort Douglas, Utah. The case illustrates the need for the most zealous care in protecting the wounded from hospital infections:

August 8, 1894, Private H. M. L., Company C, Sixteenth Infantry, was admitted to this hospital suffering from a pistol-shot wound of left forearm received in an assault by strikers while on duty with his company at New Castle, Colo., August 6, 1894. The ball, caliber .38, had entered at a central point posteriorly just above the wrist, and passing through the forearm, had made its exit at a point one-half inch above the point of entrance, but striking against the stock of the rifle, carried at the time on the left shoulder, had rebounded into the wound, from which it was extracted shortly afterwards by a local physician, who noted at the time loss of function in the

hand, indicating a division of the median nerve. The wound healed promptly, but neither motion nor sensation returned below the seat of injury. Pain, severe and constant, was experienced not only in the region of the wound, but also in the elbow and shoulder. This pain had somewhat abated in severity, but was still constant, when the patient was first seen by me, January 1, 1895. At that time sensation was slightly impaired over the middle of the forearm, markedly diminished over the lower third, and completely lost below the cicatrices of the wound. All motion of the wrist and hand was gone. By passive motion the fingers could be flexed one-half, but no more because of the intense pain created thereby in the vicinity of the original wound. A strong faradic current caused faint contractions of the muscles of the little finger and ulnar half of the ring finger only. This application was followed by the most excruciating pain in the shoulder, lasting over twenty-four hours. Slight pressure over the wound scar anteriorly caused great suffering. The wrist and hand presented the glistening, waxy appearance denoting trophic degeneration. The forearm at its greatest diameter measured 1 inch less than its fellow, this notwithstanding the fact that the patient had always been left-handed. Coarse tremor of the forearm and hand was present, necessitating the use of a splint.

The patient declining the operation for suturing the nerve, the forearm was amputated at the upper third January 8, 1895, thorough antiseptic precautions being observed in minutest details. The amputation was made thus high so as to include only thoroughly healthy tissue in the flaps. The method employed was the double antero-posterior flap.

The morning following the operation, the temperature being 103°, the dressings were removed under strict antiseptic care. The appearance of the wound was perfectly healthy, and nothing found to account for the febrile temperature. Four sutures, however, were removed from the center of the face of the stump, the wound irrigated with a 10-volume solution of hydrogen peroxide and several strands of catgut inserted for capillary drainage in addition to the tube introduced at the time of operation. The temperature rose on the evening of this day to 104.4, but dropped on the following morning to 99.4. The patient complaining, however, of burning pain in the stump, the dressings were again removed, and the rash of erysipelas stood revealed, extending back on both sides of the line of sutures for about 2 inches. This condition was combated by thoroughly flushing the wound and the erysipelatous area above it twice daily with the solution of peroxide of hydrogen, already mentioned, by the application at the same time of a 5 per cent solution of nitrate of silver to a band 4 inches in width above the elbow, and by the internal administration of tincture of chloride of iron. By these means the inflammation was limited to the stump of the forearm and the lower third of the arm. On the eighth day the temperature dropped to normal and the inflammation subsided. The subsequent history of the case has been uneventful. The patient has now a good stump to which a useful artificial arm may be attached, and he is entirely free from the agonizing pain in the elbow and shoulder from which he suffered for over five months.

The diagnosis of erysipelas in this case was confirmed by several microscopic examinations of the discharge from the wound, the streptococci appearing in every field while the inflammation was at its height and disappearing completely on its subsidence.

The technique of the operation allowed but one possible avenue for infection, i. e., the operation was performed in a ward in which there had been treated three months previously a case of facial erysipelas, since which the ward had not been disinfected. A dissection of the forearm after amputation showed that the bullet had passed through the radius, entering anteriorly at the center of the lower extremity and passing out posteriorly at the junction of the lower extremity with the shaft. This bullet track had been filled with new bone, several sharp spicula of which projected above the original surface front and rear. To these spicula were attached adhesions binding down anteriorly the median nerve and the tendons of the flexor profundus digitorum muscle, and posteriorly the tendons of the extensor primi and extensor secundi internodii policis muscles. The median nerve had been partially severed along its ulnar edge, this gap being filled with newly formed connective tissue. The nerve was also permeated with powder along an inch of its course. No lesion of the ulnar nerve could be found. Resection of the median nerve, with subsequent breaking up of tendon adhesions, would probably have given this man a useful forearm and hand.

The two points to which I would respectfully invite attention in this case are, first, that a slight injury of a nerve trunk may produce symptoms simulating complete division; and, second, that traumatic erysipelas may be produced by ward infection three months old.

Capt. H. P. Birmingham, from the results of treatment in the following case, infers that a gunshot wound involving parts covered by clothing is almost necessarily a septic one, while the opposite view may safely

be taken in wounds of unclothed parts under ordinary conditions of cleanliness.

The case was one of accidental injury with a .38-caliber bullet. At the time of his injury the man was seated in quarters with his feet elevated on the stove. The ball entered near the outer border of the sterno-mastoid muscle and emerged by the side of the thyroid cartilage, after which it entered the inner aspect of the thigh, emerging above the popliteal space. Both wounds were treated by antiseptic occlusion. That in the neck progressed favorably, but on the third day a decided rise in the patient's temperature, with pain in the thigh, led to the removal of the dressing, when a marked erysipelatous blush was found around the wound. On irrigating, six or eight small pieces of clothing from the size of a mustard seed to that of a wheat grain were washed out. After antiseptic washing the further progress of this wound was satisfactory. Captain Birmingham refers also to aseptic healing always following aseptic occlusion in gunshot wounds among the Chiricahua Indians, who always strip prior to engaging in battle.

An experiment made by Maj. J. C. Worthington with the Gardner telephonic bullet probe indicates that little reliance can be placed on negative results in searching with this instrument for bullets that have remained long enough in the body to become encysted, for if such a bullet be freely movable the needle point may fail to penetrate the cyst.

The body, about the size of a small pea, could be felt freely movable between the heads of the third and fourth metacarpal bones. * * * I then adjusted the telephonic probe and passed the point through the skin down to the foreign body. The bulb was held in the patient's mouth and well moistened with saliva, according to printed directions. Although the bullet could easily be felt at the point of the needle, and would roll under it, no sound was communicated to the ear through the telephonic ear piece. The instrument was then passed in turn to Assistant Surgeons Wakeman and Heyl, who obtained the same negative results. * * * The bullet was completely inclosed in a tightly fitting fibrous cyst, which was connected loosely with the surrounding tissues by bands of connective tissue. These had to be cut after the bullet was brought out before it could be removed from the wound. * * * After removal it was placed in the palm of the wet hand of a person who held the bulb of the telephonic probe in his mouth. The bullet was grasped loosely in the hand and the needle brought in contact with it while I held the telephonic ear piece to my ear. When the needle struck that part of the bullet from which the encysting membrane had been removed a distinct click was heard. When it was pressed against a part that remained covered by the membrane no sound could be detected, although the membrane was thoroughly wet. The bullet moved rather freely in either case when pushed by the point of the needle, just as it had when buried in the patient's flesh. The same experiment was tried by Captain Wakeman, with the same results. The bullet (caliber .22) had been embedded in the hand for eight years.

Capt. E. L. Swift reported from Fort Yates, N. Dak., a case of traumatic epilepsy limited to a single seizure and associated with nondepressed fracture of the frontal bone. The man had been struck with the butt end of a billiard cue and felled to the floor, but immediately afterwards he started from the village of Winona for his quarters, crossing the Missouri River on the ice. After this he suffered from vertigo, and at the end of forty-eight hours had an epileptic seizure of considerable severity. Next morning an exploratory incision disclosed a linear fracture of the left frontal bone extending upward and inward $1\frac{1}{2}$ inches from the coronal suture as it crosses the temporal ridge. Vertigo, on assuming the erect position, was the only observed symptom, and this gradually subsided. There has been no return of the epileptic convulsions, nor has any brain symptom appeared, although the man does not appear to have taken special care of himself, as the last entry on sick report concerning him reads: "January 7, 1895, slight strain, right wrist; fell while drunk."

The only other case of injury to the brain specially reported was one in which a pistol bullet, caliber .38, perforated the upper border of the occipital bone one-half inch to the right of the median line, passing forward slightly downward and to the right for at least 4 inches. At this depth the further progress of the probe was found to require more force than it was deemed advisable to exert. Some particles of bone were removed from near the aperture of entrance, and a slight depression of the bone at the outer side of the wound was raised by passing an elevator through the perforation in the skull and making upward traction. The wound was irrigated with solution of boric acid and dressed with iodoform. The patient was somewhat drowsy for several days, but his temperature and pulse were normal, and there was no sign to indicate the location of the bullet. On the seventh day he became restless and in the evening delirious, this condition persisting until the twenty-second day, when his mind became clear and his appetite returned. From this time his physical and mental condition improved. On the thirty second day he was permitted to visit his company quarters, and two weeks later he was reported as physically able to perform duty, but was retained in hospital for observation as to his mental condition. About three months after the date of the injury he was returned to duty, and has been serving continuously since that time. He was reenlisted April 20, 1895, fourteen months after his discharge from hospital. The case was reported by Capt. R. G. Ebert, assistant surgeon, Fort Huachuca, Ariz.

Three interesting cases of gunshot wound of the abdomen were reported. In the first, death occurred after operative interference; in the second, after expectant treatment; but in the third the surgeon must be credited with having saved the life of the patient.

In the first case, reported by Capt. D. M. Appel, the bullet, caliber .45, entered 2 inches from the umbilicus on a line toward the anterior superior spine of the left ilium and made its exit 3 inches above and 2 inches to the right of the corresponding point of the right ilium. There was much shock, with considerable and continued hemorrhage from the aperture of exit, which was stained with bile. Drs. Roswell Park and C. P. Smith, of Buffalo, N. Y., assisted at the operation, in which the abdomen was opened by an incision extending 7 inches to the right from the wound of entrance, with an extension 4 inches upward in the mesial line; the wound of exit also was enlarged by an incision 2½ inches to the left. There were discovered two large lacerated wounds of the small intestine, with laceration of the great omentum and of the lower part of the right lobe of the liver. After checking hemorrhage and cleaning out the peritoneal cavity, a piece of the intestine about 5 inches long at one of the lacerated parts was excised and the ends united by means of the Murphy button. At the other wound of the intestine a piece 2 inches long was removed and the edges united by a double row of fine silk sutures. Catgut was used for the mesentery in both instances, and also to approximate loosely the sides of the laceration of the liver. Iodoform was sprinkled over the wounds and gauze for drainage introduced through both of the original wounds. The abdominal walls were closed with a single row of deep interrupted sutures of silkworm gut. About an hour after the operation the patient vomited about 250 c. c. of thin, chocolate-colored liquid. He afterwards complained of great pain, for which Magendie's solution was given hypodermically. His pulse became rapid and irregular, and he died twelve hours after the operation.

The second case occurred at Fort Douglas, Utah, in the practice of Maj. C. L. Heizmann. A soldier, wounded by a pistol ball, caliber .38, was brought to the post hospital from Salt Lake City. The wound of entrance, 11 centimeters above the umbilicus, was not emphysematous, nor did it show any serous, biliary, or hemorrhagic oozing. The abdomen was tympanitic and tender, particularly in the right iliac region, where was found a swelling (said to be as large as the half of a good-sized cocoanut), with a slight appearance of contusion of the skin. The patient had jumped from a window after being shot, and having fallen on this side he attributed the swelling to his fall. The pulse was full, 130; temperature, 97.8°; pupils contracted from morphin administered for the relief of abdominal pain. General peritonitis set in, with increasing tenderness and tympanites, spitting of stercoraceous matters, progressive weakness, and death on the fifth day. Treatment consisted of morphin, beef tea, brandy, and enemata. In his report of the autopsy Dr. Heizmann explains his reasons for nonintervention in this case:

Considerable extravasation in peritoneal cavity. Laceration, 2 cm. long, right pendant portion of left lobe of liver. Peritonitis general. Intestines inflated with gas, and nowhere wounded. Little fecal matter in large intestine. Right eleventh rib splintered and fractured, 4 cm. from free end. Bullet found loose among viscera in pelvis below and to the left of fracture.

1. Over the tumor in the lumbar region the ecchymosis spread during two days until it covered the surface of the whole region, when the swelling gradually subsided and the bright red color began to assume a yellowish hue, which was disappearing at the time of death. This tumor and effusion under the skin were due to contusion *ab interno*; the bullet, with diminished force, striking the free end of the floating rib, a semirigid wall, on the internal surface, constituted a blow at that point similar in its effects to that of a blunt instrument against the exterior soft tissues.

2. While there occurred no actual vomiting after admission to hospital, from the start there was regurgitation from the stomach, even of water taken, the liquid being described as bitter and acid, and amounting to 6 or 8 c. c. As this increased in frequency from once every hour to half hour traces of food appeared in the ejecta, until the fourth and fifth days, when there began spitting of stercoraceous matter every few minutes. As on the second day tenderness and the tympanitic condition of the abdomen became more extended in area and general peritonitis was diagnosed, and as the breathing was now almost entirely pectoral, the peculiarity of the symptom was attributed to absence of action of abdominal muscles to assist the expulsive effort of the stomach and to constitute vomiting proper. This same inaction of abdominal muscles, the extravasation in the peritoneum, and the intestines tense with flatus account for the paralysis of the canal below the stomach and upper small intestines.

3. Though the question of operating was entertained from the beginning, it was decided in the negative because there was no progressive anæmia to signify dangerous internal hemorrhage and nothing to indicate a wound of the stomach and intestines. The tympanites was recognized as intestinal, not free, and at no time did gas escape from the wound.

4. The slight laceration of the border of the liver might have been discovered by incision and very careful search and remedied by suture, the peritoneal cavity sponged out, released from the irritating blood and bile, and the bullet removed if it had been possible to find it. The inflated intestine would have decided almost surely that the intestinal canal had not been perforated. However, this injury was not determined, grouping all the symptoms, and to within an hour of death there was good reason to believe that recovery would take place without surgical interference that in itself might be fatal.

5. On the second day the patient complained of pain in the left shoulder, referring the lodgment of the bullet to that region. It disappeared on the following day. Taking as positive symptoms the close proximity of the wound of entrance to the pendant border of the liver, especially if the wound had been inflicted during inspiration, the transitory pain in the shoulder, the incessant regurgitation, increasing in frequency, and the peritonitis spreading until it became general (without jaundice), would the surgeon have been justified in making such an exploratory incision in the median line, relying on the assertion of Ferrier that an operation is demanded on the suspicion that the liver has been wounded?

The third case was that of a soldier who was accidentally shot while in Boston. He was taken to the Massachusetts General Hospital, where he was operated on by Dr. Elliot. The following is the record:

July 18, 1894, brought to hospital about 10.30 p. m. with history of having accidentally shot himself in abdomen while trying to extract a cartridge from a .32 caliber revolver about one hour and a half ago. Examination: Large, well-developed and nourished man in good condition. Pulse of good strength. In abdomen, $4\frac{1}{2}$ inches above umbilicus and half an inch to right of median line is a bullet wound with ragged edges, slightly blackened with powder. Taken to ward E immediately.

Operation: Ether; incision 3 inches long over wound. Found tissues blackened with powder; walls quite vascular; when peritoneum was opened the outpouring of blood was so alarming that it was feared some large vessel was bleeding. Incision continued downward rapidly until it was about 12 inches long, and reached nearly to pubes. A large quantity of blood, free and in clots, was removed from pelvis and flanks; between 1 and 2 quarts in all. When this was removed no fresh bleeding was found. No wound was found in intestines or stomach. The course of the ball was slightly downward; it grazed the posterior edge of the right lobe of the liver, marking it very slightly, and pierced the posterior parietal peritoneum just inside of the upper end of the right kidney. No evidence of bleeding about kidney. Wound in peritoneum behind liver closed with silk sutures. A gauze drain was led up from this point out of abdomen, and abdomen wound closed with silk-worm gut sutures, sterilized gauze, etc. Given enema, brandy, 1 ounce, salt solution, 1 pint; put to bed in fair condition; morphin. one-fourth grain. July 19: Urine bloody; general condition improved; no distention nor vomiting. Given enema every four hours of brandy 1 ounce, peptonized milk 4 ounces, camphor 1 drachm. July 20: Feels well, except for thirst. Changed dressing, which was soaked with blood, not fresh. Abdomen slightly distended, and tender in upper part. Urine clear in p. m. July 21: Gauze pulled part way out. Abdomen tender, but not distended. Omitted enemata, as he has rejected last three or four. Champagne, 1 ounce every two hours. July 22: Gauze all out; small drain reinserted. Bowels moved by enema; less tenderness of abdomen; no distention. July 23: Drain out; feels well. July 24: Extra diet. July 29: All stitches out; primary union, except about two or three spots where apposition was not good. Supported with crepe lisse, tight swathe. August 2: Entirely healed; nausea and vomiting last night from no apparent cause; condition good in morning; diarrhea. August 3: Bread and milk diet on account of diarrhea; no more in afternoon. August 4: Extra diet, with potato or fruit. August 6: Wound examined carefully; one small granulating area and one small spot at which skin was turned in next to fascia; otherwise perfect; healing by first intention, and scar seemed to be perfectly solid, with no impulse of giving way on coughing. August 9: Up, with tight swathe, in chair. August 16: Up in chair with supporter. August 18: Discharged, well.

The following cases of incised wound of the abdomen, the first reported by Maj. T. Wilcox from Fort Huachuca, Ariz., and the second by Capt. J. D. Glennan, Fort Sill, Okla., are of interest in connection with those instanced above:

José Franco, a Mexican, engaged in cutting wood on Mount Huachuca, Ariz., was admitted to hospital on the morning of January 10, 1894, suffering from an incised wound of the right inguinal region with protrusion of a portion of the small intestine. Early the evening before, while under the influence of mescal, he had an altercation with a companion, and during it received the wound. The instrument or weapon used was not seen, but the incision was a clean cut about $2\frac{1}{2}$ inches in length and corresponded closely with the line which would be followed in the operation for strangulated inguinal hernia. The protruding ileum, estimated to be 6 feet in length, lay upon the abdomen, and was cold, congested, and distended with gases. It was stated that immediately after receiving the wound Franco, with the assistance of a companion, attempted to reach the home camp at the foot of the mountain, but was obliged to lie down in the chapparal and wait for assistance, which did not reach him until 4 o'clock in the morning, when he was brought to the post, arriving between 6 and 7 a. m. Preparations were at once made for the necessary operation. Towels wrung from a solution of boric acid in boiled water were placed over the mass of protruding intestine and chloroform was administered. Reduction was begun with that portion of the bowel which had protruded last, and proceeded with till all was returned. A part of the intestine had evidently been frosted by contact with a button of the patient's clothing, there being a circle of the size of a button with a center corresponding with the thread with which the button was attached. Two Lembert sutures were used to prevent possible rupture if the part should slough. The external wound was carefully closed and dressed with iodoform and gauze. The

Lambert sutures were of gut. Strong double silk was used for closing the abdominal wound. Morphin was given as often as required. Catheterization was necessary on three occasions. Nausea and hiccough were troublesome for two days, but ceased after a hypodermic injection of one-eighth of a grain of morphin and substituting rectal for oral alimentation. The sutures were removed from the abdominal wound on the ninth day, after which the irritation caused by their prolonged presence, which was deemed advisable on the ground of safety, promptly subsided. The patient left the hospital on the seventeenth day, and when last heard from had resumed his work of chopping wood on the mountain.

R. B. G., white, age 34 years, cowboy, was admitted to the post hospital, Fort Sill, Okla., August 23, 1894, with an incised penetrating wound of the abdomen $6\frac{1}{2}$ cm. long, 6 cm. below, and to the right of the umbilicus, with protrusion of $1\frac{1}{2}$ meters of small intestine. There were two wounds of intestine, one an incised wound $1\frac{1}{2}$ cm. long, and one a punctured wound, the wounds having been inflicted with a pocket knife a few minutes before admission. The patient presented a very emaciated appearance, supposed to be due to pulmonary tuberculosis, was intoxicated, and vomited repeatedly. The protruded intestine was covered by very dirty clothing, and the contents of the small intestine were forced through the intestinal wounds. The intestines were covered with towels wet with warm Thiersch's solution, ether given, and the intestinal wounds closed with catgut Lambert suture, washed with Thiersch's solution, and returned to the abdominal cavity, a slight enlargement of the abdominal wound being necessary. The remainder of the intestine was examined without finding further injury; and after flushing the abdominal cavity several times with warm Thiersch's solution the abdominal wound was closed. There was persistent venous hemorrhage from a vessel in the abdominal wall, controlled with difficulty. A drainage tube was passed to the bottom of one corner of the wound, and removed after several days when the venous exudation had stopped. Strychnin was given during the operation, and morphin, as necessary, during the night following and for several days.

August 24: Dressing changed, being soiled; liquid diet; morphin as needed; unable to pass urine; catheter passed three times a day. August 25: Considerable distention of bowel; enema at noon, with no result; two passages during the night, which relieved the bowel; passage of catheter continued. August 27: Morphin as needed; glycerin enema. August 29: Morphin as needed; enema at 8 a. m. August 30: Morphin as needed; tincture of digitalis 5 drops four times a day, brandy four times a day. September 1: Enema; morphin to be stopped except in severe pain. September 2: Able to pass urine; use of catheter stopped. September 3: Persistent vomiting; bismuth; pepsin, limewater; strychnin four times a day. September 4: Abdominal wound healed; continue brandy, digitalis, and strychnin. September 5: Stop strychnin; give elixir iron, quinin, and strychnin. September 7: Allowed to sit up a short time; time to be increased every day; diet increased. September 17: Discharged; cure complete.

When last seen, three months after discharge, the patient was still emaciated, but had no pain or trouble of any kind connected with the injury.

While the physical condition of this patient was unfavorable the fact that he was in a hospital, under surgical treatment, within five minutes after the injury, and also that the intestinal wounds were in that portion of the intestine immediately protruded from the abdominal cavity, very greatly increased the chances of recovery.

In addition to the above cases of abdominal surgery, 10 cases of typhilitis or abdominal abscess were reported. Six recovered after operation; 3 died, notwithstanding operative proceedings, and in 1 case the perityphlitic condition was not recognized during the patient's illness.

In the fatal case reported by Capt. Charles F. Mason, from West Point, N. Y., the patient on admission was supposed to be suffering from an attack of remittent fever, as his history was one of chills followed by fever, and constipation by diarrhea, with occasional vomiting. He had no chill after admission. Morning temperature, 99° ; evening, 100° to 101° . Two weeks afterwards the abdomen became tympanitic, but no localized pain, tenderness, dullness, nor swelling was discovered on repeated and careful investigation. Not until the nineteenth day was dulness recognized in the right iliac fossa. Next morning ether was administered and 2 quarts of pus evacuated by incision parallel with and 1 inch above the iliac crest. Pulmonary oedema occurred and the patient died shortly after the operation.

The second fatal case was recorded by Maj. J. C. Worthington, at Fort Thomas, Ky. The patient reported at sick call April 22, 1895, having had cramps in the stomach and vomiting since supper the night before. Temperature, 99° ; pulse, 48; face pale, but without the characteristic expression of peritonitis; pain in iliac and epigastric regions and tenderness marked in the right iliac fossa. He was said to have had an attack of peritonitis three years ago and to have been in a hospital in Cincinnati, Ohio, for three weeks at that time. In the evening his temperature rose to 101.6° and his pulse to 72. Next morning fluctuation was noted indistinctly in the right iliac region. At 11 a. m. the temperature was 102.8° and the pulse 108. The case was considered to be one of perforation of the appendix, with peritonitis rapidly becoming diffuse.

At 1.50 p. m., assisted by Drs. Wakeman and Heyl, U. S. A., and the patient being thoroughly etherized and all aseptic precautions observed, I made an incision above and parallel to Poupart's ligament. On opening the peritoneum at the middle of the incision about 75 c. c. of light-yellow pus gushed out. It contained some flakes of lymph but had no fecal odor. The peritoneal cavity was washed out with a 7:1000 solution of common salt sterilized and cooled to a temperature bearable to the hand. It was poured into the wound from a small pitcher and sponged out until it came away clear. In this process another collection of 50 c. c. or more of pus was washed out from the pelvic cavity. The appendix was found under the upper end of the incision. It was intensely congested, like the surrounding intestines, but though enlarged was empty. It adhered closely to the side of the colon by its upper 3 cm., being bent upward and thus resembling a coil of small intestines, for which it was at first mistaken. These adhesions were readily broken. A gangrenous, ulcerated opening with black edges 2 or 3 mm. in diameter was found at the base of the appendix close to the caecum, on the side opposite the mesentery. There was nothing escaping through this opening; its edges appeared dry. On feeling the wall of the caecum at the insertion of the appendix a firm, elastic mass could be made out, apparently within the caecum and stopping the orifice of the appendix. This mass was about 3 cm. wide and 1 or 2 thick, of a lenticular form. I ligated the mesenteric artery of the appendix with carbolated catgut and cut through its mesentery. I then passed five or six sutures of fine catgut through the walls of the caecum about 1 cm. from the base of the appendix, which I then cut off close to its base, removing the ulcer entire. I touched the stump freely with a stick dipped in pure carbolic acid and tied the sutures so as to occlude the opening and bring together the peritoneal layer over it. These sutures were passed through the elastic mass in the caecum before mentioned. This at the post-mortem was seen to be a thickening of the wall of the caecum around the inlet to the appendix. The peritoneal cavity was again thoroughly washed out with a sterilized salt solution, especially in the vicinity of the caecum and contiguous surface of the colon, which was covered with flakes of partially organized lymph. These were also seen on the surface of several coils of small intestine that were in sight. They evidently had not formed the walls of any well-defined abscess cavity. A Thomas glass drainage tube, 15 mm., was then passed into the pelvis at the lower end of the incision. The tube was first passed through a small orifice in a sheet of rubber dam and had a wick of iodoform gauze passed through it. The wound was then closed by a line of interrupted sutures of carbolated catgut passing through all of the tissues from peritoneum inclusive. The ends of these were brought together at each side of the wound and held together by catch forceps. Three traction sutures of silver wire were passed through the tissues down to the peritoneum, but not including it. They were made to pass through the skin on each side of the wound about 4 cm. from its edges. The wound was again thoroughly douched with the hot sterilized salt solution and the sutures tied. The traction sutures were made fast to silver probes on either side of the cut. The wound was then dusted with iodoform and covered with dry, sterilized gauze secured by strips of adhesive plaster. The rubber dam was folded over the end of the drain tube, inclosing with it a large mass of dry, sterilized absorbent cotton, making a closed bag with a capacity of about a liter. The whole dressing was secured in place by a roller bandage. The operation lasted about two hours, including dressing. The patient took 500 c. c. of ether. As in my previous case of laparotomy, the patient's stomach was thoroughly washed out by means of a lavage tube before giving ether, and with the same result, that there was no vomiting and little or no retching.

The patient died of general peritonitis fifty-four hours after the operation. The following is Dr. Worthington's account of the autopsy:

Patient considerably emaciated; considerable discoloration of the skin on dependent portions of the cadaver; a quantity of bloody brownish-red froth flowing from the mouth and nostrils. The abdominal layer of the peritoneum was thickened. The omentum was adherent to the intestines, but was not thickened except at the border which was nearest the cæcum. The small intestines were glued together throughout by slight adhesions, and in many places there were streaks of thick, plastic lymph on their walls. No pus was found in the abdominal cavity with the exception of about 5 or 10 c. c. in a pocket between the folds of the small intestines in the left iliac region. This was surrounded by well-defined walls of plastic lymph. Careful search was made, but no more pus could be found in the cavity, indicating that the washing out of the peritoneum at the time of the operation had been practically complete. Many of the mesenteric glands were found enlarged to the size of kidney beans. The small intestines were intensely congested throughout and distended with gas. The section of small intestine that lay directly under the line of incision was adherent to the abdominal wall along the greater part of the length of the wound. The peritoneum had united nicely throughout the whole length of the incision, with the exception of the opening at the end through which the drain tube had passed. The cæcum and ascending colon were inflamed and bound down by numerous bands of lymph, some of them so firm that they were probably the result of an old attack of peritonitis, most of them recent and less strong. The line of sutures in the side of the cæcum where the appendix had been removed was found partially covered by plastic lymph, and good union had occurred. The colon and ileum were ligated, and the cæcum taken out to be forwarded with the appendix to the Army Medical Museum. The strength of the union was tested by filling the cæcum with water; none escaped through the suture. It will be seen by the specimen that the sutures passed only through the thickened wall of the large intestine at the base of the appendix. The eructations of bile that had been so persistent in this case were explained by the condition of the inflamed and firmly fixed ascending colon, the upper part of which pressed against the gall bladder so that it was quite flattened against the liver. The stomach was opened and found to contain much gas and bloody serum, which were entering it from the pyloric orifice, evidently from post-mortem transudation from the intensely congested walls of the small intestines. The gas forming in the stomach was forcing this out as blood-stained froth through the mouth and nostrils. Not a trace of blood could be found in any part connected with the operation. The absence of pus, with the exception of the insignificant collection noted, shows that no better result could have been expected from a more thorough provision for drainage, such as packing the wound with gauze and not suturing.

The conclusion arrived at from the post-mortem, taken in connection with the history of the case, was that the man had died from general peritonitis, and that all parts concerned in the operation were healing as thoroughly as could have been wished; but that the peritonitis, though it was temporarily arrested by washing out the pus at the time of the operation, had gone on from the start that it already had to a necessarily fatal termination.

The third fatal case occurred at Fort Columbus, N. Y., and was reported by Maj. J. Van R. Hoff:

Captain M. was taken ill on the afternoon of May 9, 1894, with symptoms of acute indigestion; pain at pit of stomach and slight nausea. The attack followed the mid-day meal, and was apparently traceable to it. Seeing the case shortly after the onset of the attack, I made a careful inspection of the abdomen, but could find no external evidence pointing to the involvement of any of its contents. One-half ounce of castor oil was ordered, and, the precordial pain still persisting, the oil was followed in the evening by morphia sulphate, one-eighth of a grain, hypodermically, hot applications in the meantime having been applied. The evening temperature was 100.6° and pulse 90. The patient passed a fairly comfortable night and the following morning appeared better, but still complained of some precordial pain. The oil had not acted, and the pulse and temperature remained as previously reported. An enema was given; then bismuth, with minute doses of morphia, for the gastric distress. Palpation and percussion revealed no point of tenderness over the abdomen, but the patient said there was an indescribable feeling of discomfort. The feces were natural. On the evening of the 10th the temperature advanced to 101° and the pulse to 100. Treatment continued. Early next day the patient had a sharp paroxysm of precordial pain, which was somewhat relieved by hot poultices. Continued pain manifested itself in this region until after the operation. There was no impairment of abdominal respiration, no tympanites, no swelling; but the patient thought that there was possibly a slight tenderness in the right iliac region, particularly on deep pressure over

McBurney's point. Temperature, 101° ; pulse, 110. The diet from the inception of the attack had been solely of milk.

I telegraphed Dr. McBurney to see the case in consultation: but, he being out of town, his reply was delayed, and I did not get counsel till that night, when Dr. Barrett came to my assistance, confirmed the diagnosis, and did the operation at once. The condition of the patient before the operation was fairly good, so far as his immediate symptoms were concerned; in fact, he said that he could see nothing in his condition that demanded such radical measures. His general state, however, was not so satisfactory, he being wearied from watching the sick bed of a member of his family and other cares in addition to his official work. I might add that he had suffered for many years with headaches, the cause of which, though sedulously sought, had never been determined. The patient having been etherized, the abdomen was opened, under strict antiseptic precautions, by an incision 4 inches long. The appendix was found deep in the pelvis, and when withdrawn contained a concretion, was gangrenous, and perforated at its extremity. It was tied and removed, the wound packed, and left open for drainage. The patient came out from the anæsthetic nicely and had a fairly comfortable night. On the morning of the 12th his temperature was 101° and pulse 130; he did not complain, and appeared fairly well. In the afternoon he was given teaspoonfuls of hot water, which he retained: and thereafter he took teaspoonful doses of peptonized milk every hour. The wound was examined by the consulting surgeon late in the afternoon and seemed to be in satisfactory condition. Abdominal breathing was well marked, and there was no evidence of general peritonitis. The packing was not disturbed, but fresh external dressings (the old ones being stained with discharge) were applied. During the night the patient was given morphia sulphate $\frac{1}{4}$ grain, atropia sulphate $\frac{1}{16}$ grain, and rested fairly well. Early on the 13th the temperature was 101° ; pulse, 130. About 11 o'clock the pulse became very weak and rapid. By active and constant stimulation with hypodermic injection of brandy, champagne by mouth, and hot external applications with friction, the patient was kept along through the day. The consulting surgeon saw him at 2 p. m. and removed the packing. There was little or no discharge and no external evidence of pus. The external dressings were reapplied after the wound was washed, and the patient showed decided evidence of failing heart; was given a hypodermic injection of digitalin and nitroglycerin, of each $\frac{1}{100}$ grain. He never rallied, and died a few minutes after 3 p. m.

The autopsy showed extensive abscess and gangrene of the cæcum. There was no general peritonitis, but inflammation of the tissues of the right iliac region, with some adhesions.

The fourth case, reported by Maj. C. E. Price, Fort Sill, Okla., appears to have been one of tubercular ulceration in the vicinity of the appendix:

Private E. E., Company E, Tenth Infantry, walked to the hospital at about 7 p. m., June 6, 1896, to get some medicine for cramps in his stomach. He was much prostrated and suffering severe pain. The steward detained him at the hospital, gave him a dose of salts, applied a sinapism, and later gave him one-sixth of a grain of morphia hypodermically. He suffered considerably during the night, and early in the morning (7th) had another opiate. When I visited the ward in the morning he was somewhat easier, but still suffering much pain, which he referred to the pit of his stomach. Temperature, 98° . It was regarded as a case of gastralgia from acute indigestion. Another dose of salts was given him, and later an enema, all without effect on his bowels or the pain. I found a hernia, which was reduced with but little difficulty. His temperature remained one to two-fifths of a degree subnormal. His pulse began to grow rapid and weak. He had no tympanites, no tenderness of the bowels except on deep pressure, and but little then, and no nausea or vomiting. He referred the seat of the pain to the epigastric region, from which it radiated over the whole abdomen. A movement of his bowels was thought necessary, and in the afternoon I prescribed one drop of croton oil every hour for three doses. He was given several doses of opium to allay the pain, but without much success, although he showed the effects of the opium. A little before 5 o'clock p. m. he died. Just at the moment of death he vomited a watery liquid, or rather it ran out of his mouth. He had not suffered from thirst, and had drank but little water. He had taken some hot milk once or twice after noon.

The diagnosis was obscure, and we were not able to account for the sudden death, but the symptoms pointed to perforation of the stomach from some unknown cause. He had no history of gastric or intestinal ulceration. So far as I could learn, he had been in excellent health.

An autopsy was made at 9.30 o'clock a. m. June 9, by Drs. Carter and Glennan. Upon opening the body the stomach appeared to be intact, but before examining it critically the abdominal cavity was opened. The first thing that attracted atten-

tion was pus in the region of the ileocæcal valve. Upon examining the intestine near this point two perforations were discovered, and the mucous membrane was studded with spots which were regarded as tubercular, although bacteriological examination was not made. Over these perforations in the intestines there was a localized inflammation and adhesion. Since this man's death I have learned that he told a comrade before he came to the hospital that something had burst in him and he knew he was going to die. He also told some of the men in the hospital that he felt something burst inside him and he knew he would die. The conclusion we have arrived at is that the man had tubercular ulceration of the intestines; that the ulceration had induced local inflammation, which for some time had sealed over the perforating ulcers; that finally, probably under some exertion, the seal had given way and opened into the peritoneal cavity; that he felt this rupture, and that he died of shock before general peritonitis had time to be developed.

The diagnosis was involved in much difficulty. The man's apparent previous excellent health, the seat of his pain, the absence of tympanites, tenderness over abdomen, nausea and vomiting, and his subnormal temperature all tended to obscure the diagnosis. Post-mortem examination showed that the hernia had nothing to do with the cause of death. It was an old hernia and was completely reduced, with no adhesion about the sack or internal ring.

Of the six favorable cases the first was reported by Capt. W. H. Arthur, from Vancouver Barracks, Wash.; the second by Lieut. C. F. Kieffer, from Fort Buford, N. Dak.; the third by Capt. A. E. Bradley, from Fort Sully, S. Dak.; the fourth by Maj. J. C. Worthington, Fort Thomas, Ky.; the fifth by Lieut. Ed. L. Munson, Fort Assinniboine, Mont., and the last by Dr. Robert Pillow, attending surgeon, Columbia Arsenal, Tenn.

1. G. F. McD., admitted to sick report during the afternoon of March 7, 1894, complaining of severe pain in right iliac region, temperature 105.4° . Gives history of sudden accession of pain in region named about 3 a. m. preceding night with severe chill. The usual treatment of hot fomentations and occasional anodynes producing no permanent relief, the abdominal muscles on that side being rigid, fluctuation perceptible, and temperature high, it was determined to operate on the 17th, the tenth day after admission. The strictest antiseptic precautions were observed throughout. Incision $4\frac{1}{2}$ inches long parallel to Poupart's ligament, 1 inch above, commencing about its middle and ending near anterior superior spine of ilium. The intestines and reflection of peritoneum were carefully held aside and the abscess cavity, which extended down into the right iliac fossa and upward behind cæcum, found without difficulty, carefully washed out with hot Thiersch's solution (about 9 ounces of thick nonodorous pus was found in the abscess). It was not deemed advisable to make a very extended search for the appendix for fear of rupturing the abscess wall on the peritoneal side, but to pack the wound and make the search later if symptoms of appendicitis persisted. The relief of all symptoms after the operation was complete and almost immediate, the temperature falling within six hours from 103° to 99° . Packing removed the second day after operation, leaving drainage tube; wound healing by first intention except at point of exit of drainage tube (removed the 21st). Recovery uninterrupted, patient reporting for duty April 18, 1894.

2. S. M., daughter of civilian employee, Fort Buford, age 21. She was first taken sick about the 17th of March with severe pain in the right iliac fossa, constipation, and some febrile movement. On the evening of the 20th she was seen by a physician, who prescribed calomel and enemata. On the 21st she was brought to her home at this post and came under my care. She then had considerable pain; temperature, $103\frac{1}{2}^{\circ}$; pulse, 120 and very weak; respiration, 34. The abdomen was slightly distended; the right iliac fossa gave deep doughy resistance to the palpating hand. She had had a mild chill early in the day. The bowels had moved with slight amelioration of pain in abdomen. Her face was pinched and her expression anxious. The diagnosis of appendicitis with formation of pus was made and immediate operation advised. She had had a similar attack one year ago, which lasted several days, and from which she recovered without any treatment.

Operation was performed three hours later with the assistance of Hospital Steward Erck, Acting Steward Stoddard, and Dr. Van Dyke, of Williston. Ether was used as an anæsthetic, and was administered in an Allis inhaler. All dressings, sutures, instruments, and towels were rendered sterile by heat in an Arnold sterilizer. A lateral incision 5 inches long was made at the border of the right rectus. The fibers of the rectus were separated with the handle of the knife. This muscle was markedly emphysematous; it was filled with gas bubbles and crackled under the knife. On opening the peritoneum the head of the cæcum immediately presented in the wound. The anterior band of the colon was followed as a guide for

the appendix. On lifting the cæcum a small amount of thin sanious pus was found free in the peritoneal cavity. The position of the appendix was posterior. It was firmly bound down to the large intestine by old adhesions from the previous attack, and was shut off from the intestinal canal. In its center was a broad, flat, ulcerated surface which had all the appearance of an abscess cavity. The colon and ileum, but particularly the latter, were markedly inflamed. They were reddened and covered with patches of thick yellow lymph. The pus was carefully mopped out, the ulcerated surface of the appendix scraped and mopped off, and the abdomen thoroughly flushed with a 1:10000 bichloride solution. A drainage tube was then inserted in the lower angle of the wound and the incision closed with a double row of sutures, one row of peritoneal sutures spaced one-half inch apart, and then the superficial sutures, which included muscle, skin, and fascia. Duration of operation, thirty minutes. Patient bore anæsthetic only moderately well. Shock moderate and was counteracted by external heat. The drainage tube was removed on the third day. The result has been an absolutely aseptic one. The wound healed by first intention with the exception of a small track made by the drainage tube, which granulated. There was no vomiting; the distressing thirst that follows abdominal section was allayed by rectal injection and by small quantities of hot water by the mouth. The bowels were moved by enema on the third day. She began to menstruate on the second day after the operation, and on the fifth day contracted influenza, which was epidemic at the time. The attack of influenza was mild and was limited to a moderate degree of inflammation of the nasal and bronchial mucous membranes. For several days she complained of soreness in the right side of her abdomen, but this subsided. Her diet was gradually extended and she was allowed to sit up on the seventeenth day after the operation.

A curious condition and one worthy of record is the emphysematous condition of the rectus muscle. The condition of the appendix is also worthy of note. The first attack had sealed the intestinal end of the appendix and included the small amount of inflammatory products of that attack. This small abscess cavity had, after a year of quiescence, again become the seat of an active inflammatory process; its walls speedily became necrotic and sloughed away, liberating its contents into the peritoneal cavity, and leaving a broad, flat ulcer whose floor was made up of the walls of the abscess cavity. The appendix was firmly adherent to the colon. The inflammatory bands had proliferated to such an extent as to almost obliterate its contour, and its removal without resection of the cæcum was impossible and the attempt to remove it seemed unadvisable.

I wish to call attention in this report to the valuable and intelligent assistance of Hospital Steward Erek and Acting Steward Stoddard, which aided materially in the successful result.

3. In the third successful case the patient, W. R. E., reported at sick call January 26, 1894, complaining of vague abdominal pains; tenderness on pressure general, although deep pressure in the right inguinal region caused acute pain, most intense at McBurney's point. Mercurial and other purgatives were prescribed and turpentine stupes applied, but with little benefit. The temperature did not rise above 99.6°. On March 13 relief by operation was attempted.

On the day preceding the operation the abdomen was thoroughly scrubbed, shaved, and dressed with bichloride towels. An ounce of epsom salts was to be taken that night, breakfast the following morning prohibited, and an ounce of whisky in hot water given an hour before the time set for operation.

Operation under chloroform: Asepsis throughout. A 3-inch incision was made along the right border of the right rectus, opening directly over the cæcum. No difficulty was experienced in reaching the appendix, which hung down, with no adhesions, over the brim of the pelvis. It was 4 inches in length, slightly larger than a lead pencil, and provided with a generous mesentery. Its distal extremity contained a fecal concretion, firmly fixed. The walls were apparently thickened; the whole appendix rigid. A ligature was applied close to the cæcum, a cuff of peritoneum was dissected back, and the appendix divided; the cuff was secured over the stump by Lembert sutures, first touching the stump cavity with carbolic acid. The mesenteric attachment was looped off in sutures and then divided. The peritoneal incision was secured by a continuous catgut suture, the remaining tissues by interrupted silk sutures reinforced by a continuous skin-silk suture; no provision was made for drainage. The incision was dressed with iodoform and sterilized gauze secured by a binder.

Examination of the removed appendix showed the walls much thickened and infiltrated with numerous ecchymotic patches; the concretion consisted wholly of fecal matter. The recovery was without incident. The temperature was 99½° the evening of the operation, its highest point during convalescence. On the third day there was a natural evacuation of the bowels, and the patient announced that he felt better than he had at any time before for two months, complaining only of hunger. The first dressing was removed one week after the operation perfectly

dry, there having been no discharge of any kind. The stitches were removed on the tenth day and adhesive strips applied for support. He was removed to the ward on the thirteenth day and permitted to be up. The cicatrix is firm and well united and the relief from all symptoms complete. He was kept in the hospital for observation until April 4, when he was sent to quarters; finally disposed of for duty April 10, 1894.

The following is the report of Major Worthington's case:

Private N. F., Company H, Sixth Infantry, aged 25 years, French Canadian, has been in the service since June, 1891, is a man of good habits, and has generally enjoyed good health. He came on sick report with appendicitis April 6, 1895. He was admitted at sick call, 6.30 a. m., with violent colicky pains, chiefly in the right iliac region. He had been to the hospital the evening before and obtained from the steward a dose of Squibb's mixture for colic. He stated that he had last had a passage from his bowels on the afternoon of April 4; that he had begun vomiting on the morning of the 5th, and had been unable to retain anything in his stomach since; that he had taken some Beacham's pills on the 5th to move his bowels, but had thrown them up and had had cramp colic all day. When I first saw the patient, at about 10 a. m. April 6, his facial expression was characteristic of peritonitis; features drawn and pinched, with a clayey hue. There was the characteristic boardy hardness of the right side of the front of the abdomen, with marked tenderness to the touch at McBurney's point and tenderness to a less degree for a few inches above it. He had vomited a little water that he had taken since admission. The vomit was stained green with bile. His pulse was 88, moderately strong; temperature 101° . I immediately diagnosed acute appendicitis. I gave at once a hypodermic injection of morphin sulphate .015 gram, with atropin sulphate .0005 gram. This promptly relieved the pain, and under its influence the color and expression of the face improved. I also had turpentine stupes applied to the right side of the abdomen, and renewed every half hour. These were kept up until about 1 p. m. on the 7th, and gave some comfort to the patient.

April 7, 7 a. m.: Patient in much the same condition; pulse, 104, but smaller; temperature, 100.6° . By 11 a. m. the temperature was 102° and the abdomen was becoming distended; patient complaining of stabbing pains at intervals at a point 2 inches below McBurney's point. He is quite sore to the touch in the right iliac region. The sudden rise in temperature and other symptoms of increasing peritonitis now seemed to indicate the necessity for an abdominal section. At 1 p. m. the temperature had reached 102° ; other symptoms unchanged. I now explained to the patient the seriousness of his condition and told him that I believed the operation, which was a serious one, would give him a better chance for his life than to attempt to treat the case any longer by medical means. He was thoroughly rational. He said he knew he could not stand it much longer as he was and was perfectly willing to take his chances with the operation, or words to that effect. Assistant Surgeons Wakeman and Heyl, who had seen the case with me frequently from the first, both agreed with me that the operation was indicated by the symptoms present.

Operation: April 7, 2.45 to 5 p. m., sherry wine, 30 c. c., was given half an hour before the anæsthetic. The abdomen and pubes were carefully shaved, scrubbed with soap and water and with 1:2000 bichloride solution. As a special precaution against vomiting the stomach was thoroughly washed out by means of the lavage tube before giving the ether. About 500 c. c. of greenish, clear liquid was vomited while the tube was being introduced, but there was no vomiting nor retching during or after the anæsthesia. All towels, gauze, absorbent cotton, and silk used in the operation were sterilized immediately before the operation. The hands of the surgeon and assistants were disinfected by permanganate of potash and oxalic acid solutions. During the operation the abdomen, except the immediate vicinity of the incision, was kept covered with hot, sterilized towels. The temperature of the operating room was from 85° to 90° throughout the operation.

An incision was made, following the line of the outer border of the right rectus muscle from a point opposite the lower border of the umbilicus to a few cm. above the center of Poupart's ligament. The incision was 15 cm. long. The peritoneum, which was found much thickened, was opened on a grooved director. At the middle of the incision creamy pus welled up from an opening in the intensely congested and thickened omentum, which presented under the peritoneum. This was irrigated by a fountain syringe with 1:20000 bichloride solution, in sterilized water, until pus ceased to flow. The omentum was then turned aside and the appendix presented standing erect and turgid a little to the right of the center of the incision. It was as large as a man's finger. A quantity of grayish, fetid pus, with a fecal odor, now welled up from around the base of the appendix. This was washed off with the 1:20000 bichloride solution. There was apparently about 50 grams of this pus. It seemed to be loosely confined between the omentum, cæcum, and appendix. The

appendix was now examined and an opening about 3 mm. in diameter, with ulcerated edges, not gangrenous, was found at or near the base of the appendix on the side opposite its mesentery. Fecal matter was escaping from the opening and a large, hard mass the size of a large ricinus seed and similar in shape was found occupying the cavity of the appendix at the seat of the ulceration. This mass was easily moved to the blind end of the appendix. A double ligature of strong, sterilized silk was then passed around the appendix close to the cecum and the ends securely tied and cut off short. The appendix was then cut off with scissors 1 cm. from the ligature and its stump was disinfected by the free application of pure carbolic acid on a rounded stick. The abdominal cavity was then freely irrigated with the hot 1:2000 bichloride solution in sterilized water, a long glass nozzle with a large opening being used with a fountain syringe. By this another pus cavity was opened in the right inguinal region and some 30 or 40 c. c. of pus escaped. But one small knuckle of small intestine presented in the wound during the operation. This was much congested and its surface showed the dull luster of peritonitis. The thick, engorged omentum was carefully put in place, covering under the whole abdominal incision. A glass tube of about 1 cm. diameter with a wick of iodoform gauze was inserted at the lower angle of the wound, well back to the back part of the cavity toward the pelvis. The peritoneum was then sewed up by a continued suture of sterilized catgut. A second line of continued suture for the deep and superficial fasciae and a line of interrupted suture for the skin, sterilized catgut being used in each case. The two lines of sutures for the deep tissues were rendered necessary by the rectus muscles overlapping the peritoneal incision in the upper half of the wound. It was therefore impracticable to include the peritoneum and overlying tissues in one line of continued sutures, as had been intended.

At the end of the operation the sutured wound was dusted freely with iodoform and dressed with sterilized gauze. The flanged end of the drain tube was passed through a hole in the center of a large piece of oiled silk, which, in lieu of rubber dam, was secured to it as well as possible by tying with silk thread. This arrangement was not satisfactory, as afterwards proved, the joint not being water-tight. Dry gauze and absorbent cotton were then put into the oiled silk to receive the drainage and the silk folded over it. The whole was then covered thickly with sterilized absorbent cotton and secured in place with a roller bandage.

The patient entered from profound shock and did not recover consciousness for two hours after the operation. He had taken 370 c. c. of ether. The operation was completed at 4.15 p. m. At 4.35 p. m. the patient's temperature was 99.8°; pulse 130, and very weak. A small amount of milk and limewater and some beef tea were given during the night, but not retained. Morphine sulphate .015 and atropin .0005 were given hypodermically at 8 p. m. He passed a rather quiet night. At 8 p. m. the catheter was used and about 50 c. c. of healthy urine drawn.

April 7, 7 a. m.: Temperature, 99.8°. The patient expresses himself as feeling less pain than before the operation. He complains of some pain or soreness about the upper angle of the wound. At 7 a. m. his temperature was 98.6°; pulse, 88, quite weak. A little hot water was allowed every hour to allay nausea and thirst, which it did. Used catheter again this morning, 50 or 60 c. c. of urine drawn. From this time throughout the case he passed water naturally several times every day. At 10 a. m. I cut off the lower part of the under dressing, as it was much soiled by serum, but did not disturb that over the sutures. I replaced the part of the dressing removed with a piece of gauze wrung out of 1:2000 bichloride solution. At 10 a. m. gave hypodermic of morphine and atropin in same proportions as last night. He relieved pain and gave him an hour and a half of sleep. 3 p. m.: Temperature, 99.1°; pulse, 88, a little weaker. Gave strychnin sulphate, .001 gram, hypodermically. 6 p. m.: He took beef peptonoid 15 c. c. and retained it, the first nourishment retained since the operation. 8 p. m.: Pulse, 88, fairly good; temperature, 100.1°. Still has pain in right hypochondriac region, which has troubled him all day. Gave another hypodermic of morphine and atropin for this. He complained of a bad taste in the mouth, for which he was ordered a saturated solution of potassium chlorate as a mouth wash, as required. He had a tablespoonful of liquid beef peptonoid at 10 p. m., 2 a. m., and 6 a. m., all of which he retained. Passed a fairly comfortable night.

April 9, 7 a. m.: Better expression; less soreness in abdomen. He wrote a note this morning to a friend in his company. Temperature, 99.4°; pulse, 80. I ordered expressed beef juice 15 c. c. with liquid beef peptonoid 15 c. c., to be taken hot every two hours. He was unable to retain this, and a severe pain in the left hypochondriac region came on after the vomiting. At 11.30 a. m. he was given, to quench thirst, 1 liter of boiled water by enema through a long catheter connected with the fountain syringe. About half of this was retained; 30 c. c. of Armstrong's liquid beef peptonoid given by enema was retained. This, with milk, 30 c. c., was repeated at 2.15 and retained. At 2.30 he vomited a little hot water that had been given by the mouth to allay thirst. At 4.15 the bowels moved naturally; a firm, healthy

passage, about 50 grams. Repeated the morphin and atropin hypodermically at 8.15 p. m. on account of pain in both hypochondriac regions. Continued the nutrient enemata. Temperature at midnight, 100°.

April 10, 12.30 a. m.: Had a free passage from the bowels, about 500 c. c., liquid, not specially fetid; felt better after it. 7 a. m.: Temperature, 99°; pulse, 76. Looks better; more cheerful. Given a little milk by the mouth, which was retained. 10.30 a. m.: Gave the usual hypodermic injection of morphin and atropin. Removed all dressings; took out glass drainage tube. External wound aseptic and healing along lines of sutures by primary union. A little pus on the gauze wick in the drain tube. Introduced a small wad of gauze about to the peritoneum in the hole from which the drain tube had been taken out, after washing it out by a stream of sterilized water. Then washed the line of sutured wound with the same and covered with iodoform. Redressed with sterilized gauze, sterilized cotton, adhesive strips and a roller bandage. 12 m.: Temperature, 99.2°; pulse, 72; feels comfortable. Has taken milk and salutaris water, equal parts, half glass every two hours, and retained. This was continued all day. Bowels moved again at 7.30 p. m. Repeated the morphin and atropin hypodermic at 8 p. m. The milk and salutaris water were kept up every four hours during the night. Slept fairly well until 3 a. m.

April 11, 7 a. m.: Temperature, 98.8°; pulse, 72; feels very comfortable. Continued milk and salutaris water every two hours. At 10 a. m. he began to complain of abdominal pain, as was usual with him at this hour. For this I tried the effect of suggestion in the shape of a hypodermic of aqua pura .650 c. c. His pain was relieved and he slept half an hour. 6.50 p. m.: Had a large, well-formed, hard, dark passage from the bowels. 8 p. m.: Temperature, 101°; pulse, 84; complaining of pain in right iliac region. Gave hypodermic of morphin .015 and atropin .0005. Milk and salutaris water every four hours during the night. He passed a comfortable night, but perspired rather freely. At midnight his temperature had gone down to 99.8°.

April 12, 7 a. m.: Comfortable; temperature, 99.2°; pulse, 76. Continued the milk and salutaris water. Had a large, loose passage from the bowels in the afternoon. The dressings have not been changed since the 10th. 5.30 p. m.: The nurse discovered fetid pus escaping from under the edge of the dressings. I removed the dressings and found pus escaping from near the middle and lower third of the incision. I removed the stitches from this point upward for about 10 cm. About 100 c. c. of fetid pus escaped; also a few small black clots and a piece of macerated catgut about 2 cm. long. This was the only piece of the deeper lines of suture that ever came to light; also some bubbles of gas. The pus was grayish in color, quite fetid, but had no fecal odor. It evidently came from a pocket formed between the lines of suture external to the peritoneum. I washed out this sinus with 1:20000 bichloride solution and inserted a strip of iodoform gauze for drainage. Sprinkled with iodoform and dressed with dry bichloride gauze, sterilized cotton, and adhesive strips and a roller bandage. The patient had loose passages from the bowels at 5.45 p. m. and 7.45 p. m. Gave a hypodermic of morphin and atropin at 8 p. m. His temperature then was 99.2°, and pulse 96 and weak. As he complained of some nausea and the bowels were becoming loose, milk with limewater was given instead of the milk and water that he had been taking. Passed a comfortable night. No more diarrhea.

April 13, 7 a. m.: Temperature, 99.4°; has less pain. 11 a. m.: Removed dressing. The pus that had been discharged was less in quantity and less fetid than it had been on the previous day. I washed out the open part of the wound with 1:1000 sterilized solution of salicylic acid and packed with sterilized iodoform gauze, dressed with dry sterilized gauze, adhesive strips, sterilized cotton, and a bandage. In the afternoon the patient was restless; appetite poor. 7.30 p. m.: Temperature, 101°; pulse, 88; complaining of pain in the middle of the wound; had two loose passages from the bowels. Was given a hypodermic of morphin and atropin. After another loose passage at night he was given a suppository of opium, .100 gram, and later had Squibb's mixture, 4 c. c., on account of threatened diarrhea.

April 14, 7 a. m.: Temperature, 99.2°; pulse, 76; fairly comfortable. Allowed tea and toast in addition to the milk diet. Wound has discharged less than on previous day; is granulating well. Voluntarily turned and lay on his right side for the first time this p. m. Diarrhea returned at night. An opium suppository was used and checked this symptom.

April 15, 7 a. m.: Temperature, 99.2°; pulse, 78. Dressed the wound as on the day before. Found pus accumulating in a pocket under the right side of the center of the incision. To remedy this I made a counter opening 1 cm. long, 5 cm. from the center of the right side of the incision, and put in a rubber drain tube. By this time all of the superficial sutures had been removed and the skin and subcutaneous tissues down to the rectus muscle were exposed and granulating, the wound gaping open about 5 cm. At 3 p. m. his temperature had risen to 103° and his pulse to 104. At 4.30 p. m. he appeared so weak that I gave hypodermically strychnin sulphate, .001 gram, with quinin bimuriate, .120 gram. The wound was redressed and found to be discharging pus rather more freely. Temperature 7 p. m., 100.8°. No morphin given this night. Passed rather a restless night. Bowels still loose.

April 19, 7 a. m.: Temperature, 100.6° ; slept well. Was given quinin sulphate, .200 gram, in capsule after breakfast. Dressed the wound and found less pus in the dressings that had been removed. Up to this time the wound had been sprinkled with iodoform at each dressing. From this time I substituted a powder of one part boric acid and one part acetanilid, both finely powdered. This seemed more cleanly, the granulations looked better under its use, and it seemed altogether more satisfactory. At 7 p. m. his temperature had risen to 102.4° ; pulse, 100. Was given morphin and atropin in the usual dose, .015 and .0005, respectively, at 8 p. m.

April 20: Temperature, 101° ; slept well; bowels quiet. Wound dressed as on the previous day. Ate beefsteak and bread for dinner; appetite good. Had a passage at 7.30 p. m., the first in twenty-seven hours. Had quinin sulphate, .200 gram, after each meal. This was continued from this time.

May 9: Doing well; sitting on the porch nearly all day.

May 19: The patient was able to walk from the hospital to his company quarters and back, over half a mile, and felt better for the exercise.

June 1: Patient weighs 161 pounds, which he states is within 2 pounds of his usual weight. He feels perfectly well.

The scar is smooth, dry, and strong, with no tendency to hernia in any part.

Lieut. Edward L. Munson's case was reported as follows:

Private G. S. F., Company B, Twenty-second Infantry, was taken sick May 19, 1893, with severe pain in right iliac fossa. He had a history of two attacks of a similar character from which he had recovered without operative interference. On the 22d the patient was rapidly growing worse; temperature, 102.5° F. Ether was administered and an incision made over McBurney's point. The cæcum was found greatly inflamed and adherent to the parietal walls and the coils of the small intestines; the appendix thickened and indurated, 3 inches long, twisted anteriorly between the cæcum and the abdominal wall, and everywhere bound down by firm, old adhesions. About 20 c. c. of pus, not inclosed in a sac, was found between the cæcum and the right iliac wall. This was removed and the peritoneal cavity flushed with Thiersch's solution; profuse hemorrhage being probable as a result of tearing adhesions, a drainage tube was inserted down to the appendix and the wound closed with silk ligatures, superficial and deep. The patient was sleepless for forty-eight hours; he finally rested under morphin hypodermically and chloral and bromide of potassium by rectum. Nothing was given by the mouth for forty-eight hours. Nutrient enemata of milk, whisky, and eggs were given. On the fourth day an irregular mass of intestine, one-half by three-fourths inch in size (presumably a portion of the appendix), was discharged by the drainage tube, and many smaller fragments came away during the next three days. On the fifth day the stitches were removed, firm union having taken place, except at the upper and lower points of the incision. The bowels were emptied by small, repeated doses of Rochelle salts. On the ninth day the bandage slipped and a small unhealed point at the lower edge of the incision became infected, a small abscess resulting. This healed quickly when drained and packed with gauze. Convalescence was then uninterrupted.

The last reported case, Dr. Pillow's, was as follows:

The case of appendicitis in Corpl. J. G., operated on March 3, 1894, was one of unusual interest. His first attack was on August 7, 1893. When I saw him the symptoms were so obscure that I did not diagnose his trouble appendicitis; but before the case was through with I was convinced it was an appendix trouble, but did not change the entry on the sick report, knowing that if it was appendicitis he would have another attack. I did not have to wait long, for on September 22, 1893, he was again taken suddenly and more violently ill, and I of course at once recognized I had to do with appendicitis and so diagnosed it. I treated him and carried him on the sick report till October 5, 1893, when I again marked him to duty.

On February 5, 1894, he was again taken with a much more violent attack than either of the former. I resolved to operate; but greatly preferring to operate during the stage of quiescence, I treated, waiting for a subsidence of the acute symptoms, which were longer in abating and were more threatening than in either of the former attacks. Upon the 24th of February, 1894, I removed him to my private infirmary and operated upon him March 3, 1894.

The operation clearly demonstrated the correctness of the diagnosis as well as the imperative demand for the surgical interference, for upon searching for the appendix I found it turned upward and several coils of intestine firmly adherent to it and almost completely shutting it off from view. In separating the coils of intestine so firmly adherent were they to the appendix that with all the care I could exercise I tore the intestine in one place to such an extent that it necessitated two sutures in the gut. He had an uninterrupted recovery and I returned him to the arsenal on April 14, 1894, and after carrying him on the sick report till May 1, 1894, I returned him to duty, since which time he has enjoyed uninterrupted good health.

The point in this case of especial interest was the position of the appendix, turned upward and the coils of intestine firmly adherent all around, leaving only the tip of the appendix showing. In my opinion, if the case had been left to nature unaided it would have eventuated in strangulation of the bowel. And if the operation had been postponed the adhesions would have been so firm as to necessitate a resection of the bowel, for already a band of adhesion had partially constricted the small intestine near the cæcum. I failed to state that there was no pus-formation.

An operation for the removal of the kidney was reported by Lieut. Col. A. A. Woodhull, Army and Navy Hospital, Hot Springs, Ark.:

The patient had suffered for several months from severe neuralgic pains in the right iliac region and over the position of the right sacro sciatic foramen. The left testicle had been removed by Capt. J. M. Banister, at Fort Leavenworth, some months before for cystic enchondroma; but the patient continuing to suffer, he was sent to the hospital at Hot Springs, where he was at first treated for neuralgia. He was 27 years of age, temperate, and free from venereal taint. On admission he was much exhausted from pain in the right thigh and consequent sleeplessness. During December morphin, sulphonal, phenacetin, and codein were tried, the last with the warm bath giving most relief. In January his temperature rose to over 100° , reaching 101° in the evening. Gastric irritability and abdominal pain were prominent symptoms about the middle of the month, by which time he had become so weak that the warm bath had to be discontinued. On deep palpation an abdominal tumor of uncertain character was discovered. Some relief was procured at this time by irrigation of the bowels.

On February 2 he was carefully examined by Dr. J. T. Jelks, of Hot Springs, who found a deep-seated tumor, supposed to be carcinoma of the cæcum or other organ in the right side of the abdomen or a hydronephrosis of the kidney with great dilatation of the capsule. Operation was recommended. To empty and disinfect the intestinal canal, in view of the possible resection of an involved intestine, repeated doses of salol were given on February 4, with carbonate of soda and calomel at night, and castor oil in the morning. On the 5th the salol was continued. Operation by Dr. Jelks on the 6th. An incision was made along the anterior border of the quadratus lumborum, slightly curved forward at the bottom for the investigation of the kidney and its removal if necessary without opening the peritoneal cavity. If the kidney proved healthy it was the intention to open the peritoneum and if possible remove the tumor. On reaching the kidney there was an escape of bloody fluid and broken down tissue so profuse as to prevent the systematic extirpation of any part, and to require the cavity to be promptly filled with sterilized gauze. The gross appearance of the broken-down tissue indicated thoroughly disorganized kidney either tuberculous or cancerous, and the amount of hemorrhage pointed to sarcoma. The wound was dressed with bichloride gauze externally. The operation lasted from 1.55 to 2.05 p. m. The patient being much exhausted one-twentieth of a grain of strychnin was given at 2.10, and three hypodermic injections of brandy between 2.15 and 2.28 p. m. A pint of warm saline solution was introduced into the bowel slowly at 2.33, after which the circulation of the patient improved. His temperature after the operation was 99.2° , rising in the evening to 101.6° , with pulse from 120 to 150 and very feeble. The wound was dressed for the first time on the 10th. There was no suppuration, but a profuse oozing, which continued during the progress of the case.

The right thigh, leg and foot, which had been œdematous before the operation, gradually diminished in size, but on February 16 œdema of the left foot was observed, although there was no pain in it. The patient was carefully fed night and day, but his appetite was very capricious. He derived relief from alcohol baths, and craved soda water and ginger ale for his thirst. He became gradually but steadily worse, was exceedingly emaciated, and bed sores were with great difficulty prevented. Although the abdomen was less tense after the operation, the growth soon began to encroach on the left side. He complained of constant and severe pain both within the abdomen and near the spine, and very severe in the extremities, although generally the latter were exempt.

March 4: Temperature ranged from $99\frac{1}{2}^{\circ}$ to $103\frac{1}{2}^{\circ}$, and the pulse from 140 to 176. Reached a state of almost absolute collapse, but rallied under the action of nitroglycerin hypodermically.

March 5: Morning temperature much lower, reaching 98° , and pulse 140 at 11 a. m. Later in the day these rose to $100\frac{1}{2}^{\circ}$ and 160. From this time the patient continued to sink progressively, and was rallied several times from immediate death during successive collapses by strychnin, digitalis, caffeine, and similar hypodermic medication.

March 14: Died by exhaustion.

Autopsy, March 15: Rigor mortis well marked; emaciation extreme. Upon opening the abdomen the tumor, inclosed in a thin capsule, was found to arise from behind

the right kidney, which had been destroyed by it, and to present to the front and laterally, both right and left, displacing the movable viscera. All the exposed parts were agglutinated by inflammatory products and were infiltrated with cancerous deposits. These extended to the bladder and the mesentery. The ascending colon was adherent posteriorly to the tumor and anteriorly to the abdominal wall. The tumor and the transverse colon were adherent to each other and to the liver. In place of the right kidney was a mass of disordered tissue which involved the neighboring organs, no true kidney remaining. The liver, the spleen, and the right kidney showed deposits on their surfaces and on section. The pyloric portion of the stomach was also involved, and there were large pathogenic deposits on the spine. Between the right kidney and the spine was an abscess that was opened in the dissection, discharging pus and blood. The edges of the original wound granulated but did not heal. It was treated antiseptically throughout, and no pus formed until three days before death.

Maj. W. E. Waters reported a successful ligation of the subclavian artery for aneurism, as follows:

Corporal C. S., Company K, Seventeenth Infantry, on duty with recruit detachment at Columbus Barracks, Ohio, is 43 years of age, and has been in the Army continuously for eighteen years. He was admitted into hospital December 3, 1894, with an aneurism of the left axillary artery in the second part of its course but extending beyond the border of the pectoralis minor muscle into the axilla. The patient is a man of large physique and general good health. Except a mild attack of subacute rheumatism, for which he was not taken on sick report, he has had no serious ailment for many years until this aneurism appeared. He had been admonished of its existence by more or less continuous pain for two or three months, but did not apply earlier for medical treatment, as he supposed it was a rheumatic attack that would disappear without treatment. He was not conscious of the enlargement in the axilla (which had become a tumor measuring about an inch by an inch and a half in diameter), until it was discovered by the medical officer attending sick call. It had not interfered with the discharge of his duties as instructor of recruits, which involved the frequent use of the shoulder joint in demonstrating the motions of the manual of arms. He was not aware of the artery ever having been injured; he had no history of syphilis, gout or rheumatism save the mild attack of the last, above referred to; was not of intemperate habits, nor was there anything in his physical condition pointing to the existence of an atheromatous degeneration or any other disease of the arteries predisposing to aneurism. The only circumstance in his life and habits suggesting an exciting cause that I can discover, after the closest scrutiny, is the very continued exercise of drilling recruits, frequently requiring the extending of the arm vertically above the head, causing tension of the arteries in the axilla.

December 3, 1894, he reported at sick call complaining of pain in the axilla and in the arm and forearm. He was taken into hospital and an axillary aneurism unmistakably diagnosticated. After his admission the pain increased continuously from day to day (except during the short time to be referred to hereafter) and soon extended to the hand, which became the most painful part, first involving the thumb, index and middle fingers—the parts supplied by the terminal branches of the median nerve—with its greatest intensity in the tips of the fingers, where he described it as a “burning, stinging sensation,” in contradistinction from the aching pain he had previously felt in the arm. About this time, that is, ten days before the ligation of the artery, paralysis of the extensor muscles, deriving their nerve supply from the musculo-spiral, was first discovered, with impaired power to extend the hand, and in a day or two thereafter the paralysis had become complete, with the typical “wrist drop.” At this time loss of sensation in the back of the hand was noticed, while the paralysis of the extensors was complete. The treatment prescribed was rest in bed, with restricted diet and the administration of iodide of potassium, in half drachm doses, with three minims of the tincture of aconite three times a day. Digital compression of the subclavian artery over the first rib was tried, and there was an unsuccessful attempt to make continuous pressure with a long rubber bandage extending over both shoulders and the perineum. The already severe pain caused by the pressure of the tumor on the contiguous nerves precluded any attempt to make direct pressure. The irritable condition of the patient, arising from his unusual confinement, for he had always led an active life, and the pain he was constantly suffering, prevented any cooperation on his part in the mechanical methods of treatment that were tried. He was given nightly a hypodermic injection of morphin and atropin—at first one-fourth of a grain of the former and one one-hundredth of the latter, gradually increased to one-half and one-fiftieth, respectively. As a rule one injection at night was sufficient, but on some days a second and a third in the twenty-four hours were necessary. A few days after the commencement of treatment there appeared to be a clot forming in the aneurism, a diminution in size, and much less pain. This offered a delusive hope of a cure; but the improvement

was of short duration, and soon the tumor increased in size with aggravation of all the symptoms.

The more conservative treatment having failed it was decided to ligate the subclavian artery in its third division, outside the scalenus anticus muscle. The patient was anxious to have the operation performed notwithstanding its danger, of which he had been informed. On December 27, 1894, I tied the vessel in the part indicated, assisted by Assistant Surgeons Brechemin and Heyl, of the Army, and the Drs. Hamilton of Columbus. A little delay attended the finding of the artery because of its small size and feeble pulsation, but the operation was attended by a minimum loss of blood, and the division of a few smaller vessels. The ligature used was the carbolized catgut furnished by the medical supply department of the Army. The ligated artery was completely occluded, as determined by the cessation of pulsation in the aneurism and at the wrist, as well as of the bruit, which had been very distinct. The warmth of the hand and arm was maintained, uniformly and constantly, by enveloping them in thick layers of cotton wadding. The pain so far subsided that for several nights the patient slept soundly without an anodyne. The wound of operation healed by the first intention throughout, except where a roll of iodoform gauze had been inserted to promote drainage should suppuration occur. In a week the entire wound had healed by granulation where it had not done so by adhesion, without the formation of over a drachm of pus, and a solid tumor in the axilla had been substituted for the pulsating aneurism. Unfortunately the "wrist drop" continued, and there was a persistent numb, painful sensation in the hand, but none in the arm.

January 17: I commenced the use of a mild faradic current of electricity, to which the muscles of the forearm gently responded, more in the flexors than the extensors. A few days later massage was added to the treatment. The patient's general health has been good and in suitable weather he has taken outdoor exercise.

January 30: Resumed the administration of iodide of potassium in the doses given before the operation. There has been no objective symptom of a syphilitic taint, but the tolerance of the iodide in the earlier history of the case suggests the possibility of such an infection, hence the resumption, which is also indicated to promote the absorption of the tumor.

The advisability of a second operation for the removal of the tumor from the axilla, for the relief of the paralysis, has been considered, but in view of the diminishing size of the tumor, of the nerves having adapted themselves to their new environment, and the slight improvement that has taken place, all considered in connection with the uncertainty of any benefit that might arise from the operation, and the difficulties attending its performance, I have decided not to do it at present.

Upon my recommendation the patient has been sent to the Army and Navy Hospital at Hot Springs, Ark., where it is hoped that benefit may arise from the use of the waters, and a change of climate from the unusual rigorous weather of this locality, which has to a great extent prevented any outdoor life.

The latest report of the condition of this patient was furnished by Capt. H. O. Perley, commanding the General Hospital at Hot Springs, Ark., under date August 21, 1895:

The muscles of the left shoulder, upper arm, and forearm are somewhat atrophied from disuse. The right arm around the biceps, contracted, measures 14 inches, and the left arm 11 inches. The right forearm is 11 inches and the left 8½ inches. The flexor muscles of the forearm are much more atrophied than the extensors. Sensation and motion are retained in the muscles of the upper arm and forearm. These muscles readily respond to galvanism and the faradic current. He can both pronate and supinate the hand. The extensors of the fingers of the left hand are both weak and atrophied but still retain their function. The flexors have lost all power and show the "reaction of degeneration." The interossei and lumbricales are both atrophied. Sensation is lost in the whole hand with the exception of the outersurface of the thumb. Trophic changes, as glossy skin, increase in growth of hair, and slow growth of finger nails, are plainly visible in the hand.

The collateral circulation is evidently very well established in the limb, but no pulsation can be detected in either the radial or ulnar arteries. The tumor presses upon both the median and ulnar nerves.

The general nutrition of the hand and arm has been kept up by the daily use of massage. The slight neuralgic pain which he has complained of, in the hand, is relieved by iodide of potash in full doses. While the tumor is very slowly decreasing in size, and thereby lessening the pressure on the nerves, the hand and arm will probably be of little use for the purposes of manual labor. I am of the opinion that much more improvement can hardly be hoped for in this case.

Two cases of traumatic tetanus were reported, one by Capt. E. F. Gardner from Fort Grant, Ariz., the other by Capt. F. J. Ives from

Plattsburg Barracks, N. Y. In the first case the patient complained of stiffness of the jaw on the eighth day after the traumatism and died thirty-six hours later. In the second case the history is not that of a typical case of tetanus. Violent convulsive seizures occurred on the evening of the day after the injury, and these were controlled readily by chloral and potassium bromide with an occasional inhalation of an anæsthetic vapor. The patient at the time of seizure was suffering from nervous depression on account of the recent deaths by accidental violence of his father and brother. Tetanus antitoxin was injected, but convalescence was clearly established before the use of this remedy.

CAPTAIN GARDNER'S CASE.—Private E. E. A., Troop E, Seventh Cavalry, was accidentally wounded on the morning of July 5, 1895, at the usual pistol practice of his company, on the post target range. The exact manner in which the accident occurred is not known, as the man himself did not know he was hit until his companions saw blood flowing down the side of his foot. The pistol is a new self-cocking revolver, caliber .38. The range is about a mile from the post and Assistant Surgeon Wells immediately rode out there, followed by the Red Cross ambulance. There being no hemorrhage, nothing was done except to apply an antiseptic dressing, and the man was immediately brought to the hospital. The ball entered about an inch and a half above the inner malleolus on the inner surface of the tibia, making a small, smooth, circular wound of entrance. At a point on the front of the ankle, about an inch above the outer malleolus, was a small swelling which appeared to be caused by the presence of the ball; the patient being under ether anæsthesia, a counter incision was made over this point, all antiseptic precautions having been taken, down to the joint, but neither by diligent search here, nor by enlarging the wound of entrance and trying to follow the track of the ball could it be located without doing what would practically amount to a partial excision and causing more injury to the joint than seemed to be warranted. It was therefore decided to dress the wound with the hope that later developments might discover it, or that it might become encysted. This seemed the more reasonable as the joint could be moved in the usual directions freely, showing that the ball was not located in the joint itself, but was lodged probably in one of the bones of the tarsus.

The wound was thoroughly irrigated with bichloride solution, the counter incision closed with aseptic silk suture except at its lower part, where a small drainage tube was inserted and the wound dressed antiseptically. The temperature rose to a little over 100°, but there was no untoward symptoms. On the second day, the dressing having become saturated by slow oozing of blood from the wound, it was removed, the wound thoroughly irrigated, the dressing replaced, all antiseptic precautions being taken; the wound looked clean and there was no pus. The case seemed to progress favorably until the morning of the eighth day, when the patient complained of a slight stiffness of the jaw. It was not marked, but he could not open his mouth as well as usual. The dressings were taken off, the sutures and drainage tube removed, and the wound thoroughly cleansed and irrigated, gauze drainage inserted, and the wound redressed. The wound of entrance and the counter incision were clean and healthy and the latter nearly healed. There was no sign of suppuration. It was not considered certain that the stiffness of the jaw had any serious significance at this time, but he was put on bromide, chloral, and morphia. Some few hours later, he had a well-marked tetanic convulsion. Chloroform was used and the above treatment continued, morphia being given hypodermically.

The authorities consulted, all recent, united in condemning excision or amputation in such cases, and as the wound had been placed in as clean a condition as possible, there seemed to be nothing to do but follow out the above line of treatment. Chloroform inhalations and morphia hypodermically were given freely, but the symptoms rapidly became more serious, and the man died thirty-six hours after the first symptom noted above.

CAPTAIN LIVES'S CASE.—Private J. H. B., Company E, Twenty-first Infantry, American, age 22, sustained a slight wound on the posterior aspect of the right forearm, about 9 a. m. July 26, 1895, while reaching down into a flour barrel. At the time of the said injury the patient's physical condition was excellent. He was somewhat nervous and depressed, however, owing to the recent sudden and violent death of his father and brother in a railroad accident. The wound consisted of a slight superficial laceration with no hemorrhage beyond a mere oozing and no pain, so that it was forgotten a few minutes after its receipt.

July 27: The wound became slightly painful and swollen in the morning, and was seen in the central dispensary about 9 a. m. by the acting hospital steward, who washed it thoroughly and applied a dressing. The pain and swelling increased during the day. In the afternoon he noticed a slight numbness extending over the

entire body, and at supper a difficulty in swallowing. About 7.30 p. m. his arm was causing him excruciating pain, the numbness became suddenly intensified and all the muscles of his body became rigid. He could not talk owing to his jaws being firmly clinched, his head ached severely, and he experienced a sharp tearing pain over the region of the heart. He was shortly afterwards taken to the hospital. When first observed by me at 8 p. m. his arm was swollen from hand to shoulder, and very painful; the forearm presented an erysipelatous appearance, the wound was bathed in a thick purulent discharge, its lips red and elevated. The patient lay in a state of general muscular rigidity, with convulsive movements of the extremities, more particularly of the lower. The spasms were of an intermittent character, the intervals being short and recurring every four minutes. The muscles principally involved seemed to be those of the extremities, of the chest and of mastication. Deglutition was painful and difficult. The patient appeared thoroughly conscious, and answered questions and described symptoms as far as his condition would permit. His respiration was labored, owing in great measure to the rigidity of the respiratory muscles; pulse weak and thready, 130; temperature 103° ; skin hot and dry. He complained of great pain over the region of the heart, and numbness in the left arm. The wound was cleansed with a 1:2000 bichloride solution, and incised. Chloral hydrate, 1 gram, with potassium bromide, 2 grams, was swallowed with great difficulty. At 8.30 p. m. a mixture of alcohol, chloroform, and ether was administered by inhalation, and the wound thoroughly cauterized with a Paquelin cautery. Very little of the anæsthetic was used, as it acted promptly. On regaining consciousness the muscular spasms were very much diminished and gradually subsided. Morphine sulph., .016, hypodermically, at 9.30, and chloral, 1 gram, with pot. bromide, 2 grams, at 10.30 and 12.30 a. m. Temperature normal at midnight. Although the diagnosis was not positively established, it was determined to treat the case as one of acute tetanus.

July 28: Slept soundly until 7 a. m. On waking felt considerably better; ate breakfast without difficulty; no recurrence of the convulsions until 8 a. m. This attack was similar to the previous one, although milder and of less duration. Temperature normal prior to attack but rose to 100° during the convulsions, which lasted about an hour and a half. Tetanus antitoxin was telegraphed for, in hopes of its arriving in time to be administered successfully. As the patient could not void his urine catheterization was employed. Arm dressed with moist bichloride dressing; chloral, 1 gram, and bromide, 2 grams, administered at 8 a. m., 10.30 a. m., and 12.30 p. m.; beef tea at intervals during the day. The patient had no difficulty in swallowing medicine or nourishment, and rested quietly until 6.30 p. m., when the convulsions returned with increased severity. Their character was similar to the previous attacks, with the exception of a well-marked risus sardonicus. The temperature, which had remained normal all day, rose to 102° ; pulse, 120. This attack lasted one hour and a half, and was followed by loss of consciousness. Chloral, 1 gram, and bromide, 2 grams, had been given just prior to the attack at 6.30 p. m.; in fact, the attack appeared to be precipitated by the act of swallowing the medicine, as the patient objected very strongly to the taste of the chloral, although it had been properly diluted. The chloral and bromide were repeated at 9 and 11.30 p. m., when the patient became thoroughly narcotized and slept quietly until 6 a. m.

July 29: The patient rested well and felt refreshed on waking. Arm dressed; wound healthy and granulating; swelling subsiding rapidly. Chloral and bromide given at 6 and 9 a. m. Beef tea, eggs, and milk for breakfast. At 10 a. m. another attack occurred similar to, but more severe than all previous ones. This was attended by loss of consciousness, intense cardiac pains and such violent convulsive movements as to require four attendants to prevent his throwing himself from the bed. The risus sardonicus was more marked. Suddenly the muscles of the neck and back became involved and extensive opisthotonos was developed. The muscles of the neck and jaws became tense and knotted, the head was thrown far back and the body arched extensively so as to almost form a semicircle. The respirations were slow and labored; pulse, 80 and strong; temperature, 99° . The alcohol, chloroform, and ether mixture was then administered, very little being employed, and was quickly followed by cessation of all symptoms and returning consciousness. At 11.30 a. m. the convulsions returned with even greater severity, the jaws were so firmly locked that it was necessary to pass a stomach tube through the nostril when chloral, 2 grams, and bromide, 3 grams, and 1 pint of beef tea were administered. The remarkable susceptibility of this patient to the effects of chloral and anæsthetics was very noticeable; a dozen inhalations of the latter produced complete anæsthesia, and the sedative effects of chloral and bromide were, in every instance, apparent within a short period after their administration. At the same time there appeared to be no harmful effects when the remedies were pushed.

Up to this point in the disease the chloral and bromide had been discontinued when the patient seemed to be thoroughly under their influence, but it was now deemed advisable to increase the frequency of the doses as far as possible with safety to the patient. They were repeated at 2 p. m., 5 p. m., and 6.30 p. m. A paroxysm fol-

lowed immediately after the administration of the last dose. It was of the usual character and as severe as the previous one. The restraint apparatus was applied, but abandoned as it seemed to distress the patient more than the forcible restraint of the attendants. This attack was attended with marked trismus and opisthotonos; in the intermissions the patient tried to tear himself over the region of the heart; there was total unconsciousness. Temperature, $102\frac{1}{2}^{\circ}$; pulse, 130 and weak; respirations shallow and labored, 8 per minute. The attack ceased at 7 p. m., and was followed by slight collapse, from which he rallied without stimulants. He slept soundly until 5 a. m., during which time no chloral was administered. From 6 a. m. to 6.30 p. m. he received chloral, 7 grams, and bromide, 10 grams.

July 30: A paroxysm of a milder character occurred at 10.45 a. m., lasting about half an hour, and at 11.30 another, milder, lasting fifteen minutes. During the day he received chloral and bromide at 5 a. m., 2 and 4 grams; 9 a. m., 1.33 and 2.66 grams; 11 a. m., 1.33 and 2.66 grams; same at 3.30, 6.30, and 11.30 p. m. Total during day, chloral, 8.66 grams; bromide, 13.33 grams.

July 31: During the night the patient rested well; he woke refreshed. The wound was dressed as usual and found to be granulating nicely. All pain and swelling in the arm had subsided. Up to the present the catheter had been used; the urine had been examined and found to be of acid reaction, specific gravity 1.018, and normal. His bowels had been kept open by enemata and nourishment administered at regular intervals. To disguise the chloral it was given in beef tea. During the day the patient slept and dozed, and had no recurrence of the paroxysm. At 6 p. m. the catheter was passed with considerable difficulty, and was followed by serious collapse. The respirations fell to 8, pulse to 54, very weak; extremities cold; patient unconscious. Nitrite of amyl inhalations and brandy, 15 c. c., induced a slow reaction at 7.15 p. m. During the day chloral, 1 gram, and bromide, 2 grams, at 6.30 a. m., 10.30 a. m., 12.30 p. m., and 8 p. m., the last dose followed by another collapse; respiration, 4; pulse, 40; temperature, 98° . Nitrite of amyl induced reaction, and the patient slept well until 1.15, when another dose of chloral and bromide was given, after which he slept quietly until 6 a. m. Total chloral, 5 grams; bromide, 10 grams.

August 1: The patient on waking felt comfortable; pulse 50, and weak; temperature and respiration normal; urine voided naturally; mind clear. He ate breakfast without difficulty and with relish. As there had been no tetanic convulsions for thirty-six hours, and no very severe one for sixty hours, I discontinued the chloral and bromide and substituted iron, digitalis, and stimulants. At noon on this day the tetanus antitoxin arrived and, although the patient was in a state of convalescence, I administered two doses, 25 c. c. of the serum, at 3 and 9 p. m. No effect followed the first dose until 8.30, when there was a sudden rise in the temperature to 102° ; respiration, 24; pulse, 96. After the second dose the temperature fell to 100° at 10.30 p. m., then rose gradually to $101\frac{1}{2}^{\circ}$ at 12 p. m. The antitoxin was negative in its effects and was discontinued after the second dose.

August 2: The patient slept well from midnight. Convalescence well established; mind clear; disposition cheerful; appetite good. The post surgeon returned for duty August 2 and assumed charge of the case. I did not see the patient again professionally until August 14; but I learn that his convalescence was retarded by a troublesome urticaria and erythema, and a coincident paralysis of the right lower extremity, caused by one of the antitoxin injections.

August 20: During the past week the patient has been slowly improving. He is at present troubled with a partial loss of motion confined to the lower extremity, and a slight loss of sensibility on the inner side of right leg below the knee joint. The motions of abduction, adduction, rotation, flexion, and extension in the thigh are very much impaired; flexion and extension at the knee joints are almost absent, and the movements of the foot, although more extensive than either knee or thigh, are very limited. There is a slight numbness on the outer side of the right hand, involving the ring and little fingers. As this is the region below the original injury, the numbness may be due to the extensive cauterization of the wound.

This patient's recovery is, in my opinion, due in great measure to the readiness with which his system responded to the effects of the remedial agents employed, and to the unflagging attention received from Hospital Steward Wyke and Acting Hospital Steward Dene, one or both of whom were with him continuously. Whether the paralysis is a sequela of the tetanus poisoning or results from the use of the tetanus antitoxin, I am unable to state. I have been unsuccessful in discovering any literature on that subject, and my knowledge of the effects of antitoxin is too limited to base an opinion upon. The fact that the paralysis came on simultaneously with the urticaria several days after the administration of the antitoxin would incline one to infer that the serum was responsible for its appearance. The paralysis, I learn, involved both lower extremities at first, but speedily disappeared from the left side. The patient is improving, but very slowly, under a tonic treatment. Electricity was tried, but with no benefit.

SANITARY CONDITION OF THE ARMY.

QUARTERS.

The sanitary reports of Army medical officers are received and filed as routine business when everything is said to be in good condition, or in as good condition as is possible under the circumstances. It is only when recommendation is made to remedy some insanitary condition that note is made of the fact. A summary of these sanitary reports becomes therefore an enumeration of sanitary faults in existence at some time during the year rather than a report of the improved conditions that have been established by the energy of local and superior authorities.

In former reports from this office attention was invited to the dilapidated condition of the quarters at certain posts, as at Forts Keogh, Custer and Yates, Whipple Barracks, San Carlos, Fort Grant and Eagle Pass, and recommendation was made that modern, airy, and comfortable quarters should be built at these posts if they are to be continued in service. The medical officers at the posts mentioned, with the exception of Whipple Barracks and Fort Yates, have ceased during the past year to call special attention to the condition of the quarters. At the latter post the repeated occurrence of diphtheria among the men in the infantry barracks, compared with the exemption of the cavalry command from this disease, emphasizes the recommendations of the post surgeon. All the buildings at Whipple Barracks are old and dilapidated, overcrowded, drafty and poorly ventilated. In winter this means impaired health and a large sick report among the troops. The buildings do not afford proper accommodations for more than forty men per company, while the companies average nearly sixty men. Maj. W. R. Hall recommended, November, 1894, that—

Immediate action should be taken to relieve the overcrowded condition of the barracks. Additions to accommodate at least fifteen men each ought to be attached to the two sets of frame barracks. There is room on the grounds back of the double set of adobe barracks to erect frame buildings for company amusement rooms, tailor shop, and squad rooms for some twenty men. This would leave sufficient space in the adobe for the remaining men of the two companies now occupying it. I therefore recommend and urge on sanitary grounds that a sufficient amount of the lumber on hand and money already appropriated for repairs to barracks and quarters be immediately directed to this purpose.

Plans and estimates to carry out the views of the post surgeon were forwarded by the post quartermaster December 31, 1894.

At Fort Yates the condition of the buildings is said to be the same as when previously reported. They have, however, been more crowded by the arrival of recruits, increasing the size of the organizations. In one barrack the bunks are so crowded that to get to bed a man has to clamber over the foot rail or crawl over the bunk of another man.

FORT YATES, N. DAK.—*Lieut. H. C. Fisher, September, 1894.*—The condemnation of the infantry barracks in former reports must be repeated. They are old, rotten, and necessarily foul. They are heated by stoves, and proper ventilation is a practical impossibility. The light allowed by the small windows is less than half the requisite amount, and a large quantity is still further shut off by the low-roofed verandas. These barracks are not fit for habitation, and to their poor condition in the past has been attributed the prevalence of diphtheria at this post. The majority of quarters for officers are in a corresponding condition, the old log buildings being badly warped and settled, with decaying log foundations.

Col. C. C. Byrne, assistant surgeon-general, September, 1894.—The health of the troops stationed here has not for some years compared favorably with that of troops stationed at other posts in this department. Diphtheria appears to be almost endemic here, and no cause can be assigned for this except the insanitary condition of the infantry barracks and of some of the officers' quarters. The barracks referred to are

old log structures, the floors close to the ground, and the logs undergoing decay. There was an unpleasant odor pervading the dormitories, even when all the windows were open and a strong current of air was sweeping through. The cavalry troops occupying new frame barracks with dormitories on the second floor have almost escaped the disease. If this post is to be maintained the old barracks should be destroyed and new ones erected.

Most of the recommendations of medical officers during the past year have been directed to the prevention of overcrowding and the improvement of ventilation. The guardhouses at three posts, Madison Barracks and Forts Myer and Wingate, met with special mention. In the following summary the posts are in alphabetical sequence:

FORT ADAMS, R. I.—The sanitary condition of the quarters in the fort is not good, on account of imperfect ventilation, damp walls and insufficient sunlight. This, no doubt, has a reference to the casemates. The inadvisability of occupying casemates as living rooms has been stated fully in previous reports from this office. As bearing on this subject, it is observed that an examination, with a view to occupancy, of casemates at Fort Trumbull, Conn., in May last, revealed a depth of 8 to 10 inches of stagnant water under the floors and a damp and moldy condition of the walls sufficient to render them uninhabitable. The water under the floors had seeped from above, and as it lies on solid rock inside the walls of the fort its removal by drainage becomes a difficult problem.

ANGEL ISLAND, CAL.—The ventilation of the band quarters is defective.

FORT BARRANCAS, FLA.—Galleries on the south side of the barracks are represented as a necessity from every point of view, appearance, comfort and sanitation. The post commander concurs in the views of the medical officer that any attempt to repair the buildings used as officers' quarters would be a waste of money. They should be replaced by new buildings. Quarters recently built for noncommissioned officers are considered radically defective from the sanitary point of view as being too small, low in the ceiling, hot and uncomfortable.

BENICIA BARRACKS, CAL.—The dormitories have a floor space of only 50 feet per man in one company and 64 feet in the other.

FORT BUFORD, N. DAK.—A number of the officers' quarters and some of the other buildings are scarcely habitable in the cold weather of the winter season.

DAVIDS ISLAND, N. Y.—The three brick buildings occupied by the troops were reported in October, 1894, as cold, drafty and uncomfortable, but it was stated that measures had been taken by the post commander to remedy the defects as far as possible. These measures appear to have included the ceiling of the rooms, but they do not seem to have been efficient, for in February, 1895, Maj. V. Havard reported:

The heating system has proved very inadequate in the barracks during this month, the thermometer falling below freezing point on several days inside the barracks, notwithstanding all efforts to keep up the fires. It is evident that if the barracks are to be kept comfortably warm in winter a radical change in the heating plant is required, in addition to putting in of ceilings, which, although a great improvement, is not sufficient for the purpose.

MADISON BARRACKS, N. Y.—The guardhouse is an old stone building. The guardroom gives only 384 cubic feet to each of the guard and the prison room from 200 to 324 feet to each of the ordinary number of prisoners. Col. Joseph R. Smith, assistant surgeon-general, considered that suitable and sufficient additions to the guardhouse could be constructed at less expense than would be required for a new

building, but the general tenor of opinion on the subject appears to be that a new guardhouse is urgently needed.

FORT MYER, VA.—The building of a new guardhouse at this post also has been urged.

PRESIDIO OF SAN FRANCISCO, CAL.—Overcrowding in Batteries H and K, Fourth Artillery, was reported in October, 1894.

FORT ROBINSON, NEBB.—Maj. Henry McElderry urged the necessity for providing means of ventilation for the barrack rooms at this post. Only one of the dormitories had any means for the entrance of fresh air except by the doors and windows, which in cold weather are of course kept closed. In one room fresh air enters through an opening underneath the stove, but as the latter is not jacketed the air is not properly warmed, and the men close the aperture in order to keep warm at night. Some small openings in the tin surrounding the stovepipe in its passage through the ceiling are the only means afforded for the exit of foul air. When the air was tested the large proportion of carbon dioxid in the dormitories showed the defective ventilation, as the air space in most instances was large enough. In January, 1895, eighteen cases of tonsillitis were taken on sick report. These were attributed to the lack of ventilation during cold weather by the closure of all doors and windows. The following tabulation gives Major McElderry's results:

Troop.	Strength	Area of dormitory	Area per man.	Air space of dormitory.		Carbon dioxid (vols. per 10,000).	Number of men actually sleeping in dormitory.
		Sq. feet.	Sq. feet.	Cu. feet.	Cu. feet.		
A	54	4,200	77	58,800	1,088	16.01	43
C	57	2,500	44	30,000	525	13.34	49
D	57	4,200	73	58,800	1,030	14.67	50
E	58	4,200	72	58,800	1,013	13.34	46
G	58	2,900	67	54,600	943	10.67	39
H	55	4,200	76	58,800	1,069	26.00	45
I	59	4,200	71	58,800	997	18.23	48
K	55	3,900	70	54,600	993	16.01	45
Band	19	2,079	109	29,106	1,532	19.27	16

ST. FRANCIS BARRACKS, FLA.—The barracks occupied by H and part of E, Third Artillery, are old and in bad repair. The roofs leak and the plaster has fallen in parts from the ceiling. The dormitories are overcrowded and the beds too close together. The air space per man is only 392 feet. The quarters for noncommissioned officers are old, decaying and not worth the expense of repairs.

FORT SHERIDAN, ILL.—Maj. A. U. Girard entered an objection against the crowding of beds together in the dormitories. A number of the rooms built for a company strength of forty men are rather crowded with the present increased strength, and company commanders, to give free space for formations, have put two and in some cases three beds in close apposition. Crowded dormitories need not be used for formation when sheltered porches are available. While, therefore, the general arrangement of the bunks should be left at the disposition of company commanders, he believes that an order should be issued restricting them to the extent of giving a free space of 18 inches between bunks.

FORT SILL, OKLA.—Capt. Fitzhugh Carter attributed the prevalence of catarrhs among the enlisted men at this post to the crowded condition of the barracks. The space per man does not fall below that

usually provided in barrack dormitories, but the position of doors, etc., renders it necessary to crowd the bunks together without reference to the windows. In some instances there is no standing room between the bunks, which the men enter by climbing over the foot rail. Those who occupy beds opposite the windows are exposed to direct drafts. In very cold, still weather, with doors and windows closed, there is no ventilation. As a contrast, it is noted that no officer had been excused from duty on account of a throat or bronchial affection.

VANCOUVER BARRACKS, WASH.—The advantages of a fair allowance of air space in the dormitories is neutralized by the want of any provision for ventilation.

WEST POINT, N. Y.—Special means for the ventilation of the engineer barracks are considered desirable by the post surgeon.

FORT WINGATE, N. MEX.—During December, 1894, the air space per man in the general prison room was only 217 feet. As the history of the post guardhouse shows it to be unable to meet the emergencies to which it is subject, its enlargement is recommended.

At Forts Logan and Omaha reference was made to the practice of flushing floors with water for the purpose of cleaning them.

FORT LOGAN, COLO.—*Maj. A. A. De Loffre.*—It was noticed that too much water was used in mopping up the floors in the following infantry barracks: A, B, C, D, F. I visited said barracks about 10.30 a. m. and was told that the floors had been washed at 7 or 8 o'clock in the morning, yet all of them were still quite damp at the time of my inspection. I think it would be more healthful not to mop the floors at all than to flood them with water as was done.

FORT OMAHA, NEBR.—*Maj. J. V. Lauderdale.*—The condition of the company quarters and kitchen, with their tables and floors white and dry, calls for a special remark of commendation, but the floors in the rooms of the guardhouse appear to be washed as sailors wash the deck of a ship, viz, by pouring on water and allowing it to dry. This is not the best way to cleanse rooms, especially apartments that are so far removed from direct sunlight or sources of dry heat. They should be washed and then mopped dry at once. Damp floors are unhealthy to sleep upon.

In my report for the year ended June 30, 1893, I called attention to this insanitary practice, which has long since been given up in the Navy on the well-established principle that a damp ship is an unhealthy one. The same principle applies to barrack and other occupied rooms. The floors and the soil beneath them should be kept dry, and this can not be effected if water is flushed on and permitted to run through open seams or knot holes (or augur holes bored specially to permit this method of disposal of the waste water). As catarrhal and rheumatic affections are prone to be developed by flushing, commanding officers should prohibit the practice. Floors can easily be kept clean, dry, and wholesome by the use of wax and turpentine, paraffin and benzin and other methods of filling up the pores of the wood and rendering them nonabsorbing. In an order published during the past year the commanding general, Department of the East, called attention to this point of domestic sanitation, requiring post commanders to see that action is taken in accordance with the above suggestion. There is no doubt that its general adoption will lessen the prevalence of catarrh, tonsillitis and rheumatic affections.

DRAINAGE, SEWERAGE, LATRINES, ETC.

Faulty drainage is mentioned only at a few posts. At Fort Barracas the low ground in front of the post is covered with undergrowth, the ditches draining it having become more or less clogged. Past experience is cited as having shown that this has an important bearing on the prevalence at the post of malarial diseases, and also of mosquitoes,

which rise in swarms when the low ground is saturated. The swamp in the northeast corner of the reservation at Washington Barracks is also noted, but it is represented as being more harmful to the adjacent citizens than to the troops. The cellars in some of the quarters at Forts Niagara and Porter are occasionally flooded. Since the occupation of the new post of Fort Brady, Mich., the post surgeon has repeatedly called attention to the faulty drainage which permits the ash pits in the barracks to be flooded with water, particularly during the snow meltings of spring. In November, 1893, action was deferred on the drainage of water from these ash pits until further use determined the necessity for change. That this necessity exists is shown by the report of Capt. W. B. Davis for April, 1895:

I have made a careful inspection of the post during the past month, and find everything to be in a most satisfactory condition, with the single exception of the cellars of the guardhouse, barracks, and officers' quarters, which, with one or two exceptions, leak badly and have to be bailed out, though the contract under which the post was constructed called for absolutely waterproof cellars. That this condition of affairs is detrimental to health goes without saying, and I feel confident that it is only necessary to call your attention to it to insure prompt measures being taken to abate the nuisance.

In my last annual report it was stated that the construction by the city of San Francisco of a sewer, called the Locust street sewer, across a part of the reservation of the Presidio, has resulted in a nuisance which has continued for the past eighteen months. The sewage enters a little rivulet which flows over the southern margin of the reservation into a marsh just below the post hospital, where it spreads over the surface. This nuisance should be abated.

PRESIDIO OF SAN FRANCISCO, CAL.—*Sanitary report, March 1, 1895.*—The Locust street sewer remains the same as previously reported.

Col. J. V. D. Middleton, deputy surgeon-general, medical director, March 5, 1895.—The post surgeon has reported upon this city sewer for the past two and a half years. It is extremely insanitary and should be corrected. It is recommended that immediate steps be taken to abate the nuisance, if possible.

Maj. A. S. Kimball, deputy quartermaster-general, March 6, 1895.—I have this day made full report in relation to the city sewer which discharges upon the Presidio reservation, with recommendation that the city authorities be urged to take immediate action to abate the evils complained of.

Brig. Gen. James W. Forsyth, commanding department, March 29, 1895.—The attention of the municipal authorities of the city of San Francisco was recently and urgently called to this evil, and I am assured said authorities will take steps at once to bring about speedy and satisfactory remedial action.

The points brought into prominence in the sanitary reports of the past year with regard to the disposal of excreta and waste water about military posts may be summarized as follows:

ANGEL ISLAND, CAL.—The sink at this post was reported as a primitive affair, conveniently located, but uncomfortable, malodorous, and kept clean with difficulty, owing to its construction. A description of this deep vault, which is practically an unventilated cesspool, was given in my last annual report. As there is an ample supply of water at this post, properly constructed water-closets are recommended.

BENICIA BARRACKS, CAL.—It is understood that the question of sewerage for this post has, for some time back, been held over for decision in connection with general plans for the arsenal and barracks. At the present time the sewerage system of the post is dependent on the good will of adjacent property owners on whose land it empties. The post surgeon called attention to this in September, 1894, and the post quartermaster submitted estimates for plans to connect with the main sewer of the arsenal. These were forwarded by the chief quartermaster of the department, with a report that a satisfactory system could be constructed for less money than was called for by the estimates.

Under date of April 18, 1895, the Quartermaster-General requested the preparation of the modified plans suggested by the chief quartermaster.

FORT CANBY, WASH.—The sewer outlets are too near low-water mark; they should be carried out farther to prevent exposure of sewage at low tide. But the special nuisance at this post is the privy vault built over the water near the beach. It is offensive in many respects.

FORT CLARK, TEX.—The use of slop and waste-water barrels, slop carts, and open drains is necessarily accompanied by a gradual and undesirable contamination of the soil in the vicinity of the quarters. The existence of an abundant water supply, with service pipes for all buildings requiring water, offers the means of operating a sewerage system if the occupation of the post is to be continued. A contour survey was made by the engineer officer of the department in 1893, showing, it is understood, practicable lines for sewers, with suitable locations for tanks, outfalls, etc. Sewage should not be discharged into the Las Moras river on account of the use of the water by settlements below the post.

DAVIDS ISLAND, N. Y.—Surprise is expressed that with a sewer system in excellent order there should be at this post so many closets unconnected with it, and therefore requiring manual emptying and disinfection. Recommendation is made that so far as deemed practicable the closets be connected with the system and all remaining not so connected be removed or filled up.

FORT HANCOCK, TEX.—All waste water, including that from urinals, is carried by untrapped pipes into cesspools which are too near the buildings. The post commander, March 2, 1895, expressed himself as follows:

Regarding the subject of sewage at this post, I would state that earth closets are used for all fecal matter. The drainage from bath tubs, sinks, etc., in officers' quarters, is into covered cesspools about 100 feet in rear of buildings. Two of these have become clogged this winter and have had to be taken up, when it was found that the same drain was composed of 2 inch iron pipe, 3 inch vitrified pipe, and wooden troughs about 4 inches square, and without traps of any kind. The iron pipes taken up were found almost entirely choked with rust and the wooden troughs rotten. The drain at No. 2 quarters was constructed as follows: First, about 40 feet of 2 inch iron pipe, then 20 feet of 3 inch vitrified sewer pipe, then more 2-inch iron pipe, which led into a wooden trough about 20 feet long, which ran to cesspool. This is believed to be a fair sample of the drains at this post. The urinal at the barracks is connected by a 2 inch iron pipe to a covered cesspool about 6 feet from the building, and the surrounding ground is thoroughly permeated with filth. I believe that the drain from the officers' quarters should be relaid with vitrified pipe, and that the cesspools should be moved farther away from the buildings, as recommended by the post surgeon, and should be similarly constructed, and that all pipes leading into the buildings should be trapped.

FORT KEOGH, MONT. As stated in my last annual report, the medical director, in reporting on the condition of this post, included a system of sewerage with water-closets and baths as one of its sanitary requirements if the continuance of the post is intended. The post surgeon, during the past year, recommended the substitution of earth closets for the pits now in use. The construction of earth closets at Fort Keogh has been included in the barrack and quarters' estimates for the past three years, and has been urged strongly by military and medical authorities, but no allotment has been made for the purpose.

FORT MONROE, VA.—In December, 1894, the post surgeon, having in view the excavation and upturning of the soil that would be necessary in connection with the construction of the new sewerage system authorized for this post, called attention to the harmful results that would follow if this work should be carried on during the hot months, May to September. Medical experience, as recorded in the history of the post, gives ample proof that the upturning of soil in the warm

months is a prolific source of malarial diseases. He therefore urged that this work be done during the winter and spring. His suggestions were referred to the Chief of Engineers, and by him to the officer in charge of the work of construction. The said work was begun in April last.

FORT NIAGARA, N. Y.—The rifle range at this post is claimed to be the finest in this country. It will probably be the site of department competitions for years to come. The post surgeon therefore suggests the inadvisability of continuing the present pits for excreta, and the practice of running the liquid refuse from the kitchens into ditches in the rear. He recommends the construction of water-closets, and the connection of the camp kitchens with the sewerage system of the post.

FORT RINGGOLD, TEX.—The inadequacy of the drain pipes which carry off the waste water is reported as due to want of sufficient fall. The automatic flushing recommended by Capt. James E. Pilcher, and referred to in my last annual report, is considered by the present post surgeon as competent to relieve the faulty condition, but nothing short of an entire relaying of the system will, he believes, give an adequate and safe system of removal of the liquid wastes. The outfall is into the Rio Grande, 20 feet above low-water mark; but as the river is at or near low water for the greater part of the year, it is possible to relay the sewer with considerably more fall than at present.

FORT SILL, OKLA.—The condition of the system for the removal of waste water at this post was stated fully in my last annual report. The tile drains are badly cemented and too small; they have no man-holes nor traps, and all these faults are aggravated by the main fault, an insufficient fall. There is a continual necessity for digging up and repairing. The system is so radically bad that no repairs will remedy defects; it should be relaid and made to include water-closets, so as to relieve the post from the dry-earth-closets. The post quartermaster proposed to put the system in good working condition if the pipes and plumbing supplies of Fort Supply were shipped to him on the abandonment of that post. His proposal was not favorably considered, as the intention was to turn over the abandoned post intact to the Department of the Interior. The commanding officer was thereupon directed to embrace within the annual estimates one for suitable improvement of the sewerage system of the post.

FORT SNELLING, MINN.—The water-closets of the men's quarters of the upper post have been reported as unsatisfactory for several years back. It was said that many are leaky, all offensive, and from their construction it is impossible to clean them thoroughly. Similar statements have been repeated during the past year. Under date of January 15, 1895, Quartermaster-General's Office, it is said that instructions have been given to correct the reported defects in the water-closets. A system of sewerage, with water-closet and bathroom connections, was recommended for the officers' quarters of the old post, as the vaults at present used are unsanitary and indeed highly offensive. These vaults have been condemned at every inspection for a long time back. They can not be cleaned satisfactorily by the odorless excavator, and after rains it is not unusual for them to overflow, carrying their foul contents out on the ground. The request for a sewerage system was disapproved, as the lower post is held only temporarily, and will be abandoned as soon as new quarters are erected. Meanwhile estimates for earth closet boxes have been submitted, with a view to closing up the obnoxious vaults.

FORT WADSWORTH, N. Y.—In my last annual report, a blocking of the sewers from the officers' quarters and the hospital at this post by

willow tree roots was noted, together with the fact that there had been much sickness in the line of officers' quarters, although there was no evidence that this was due to the condition of the sewer. Most of the cases of sickness were associated with unusual cardiac depression. In his reports for April, May and June, 1894, the post surgeon, Maj. E. T. Comegys, described fully the prevalence and nature of the sickness which mainly affected the eight sets of quarters in the officers' line of the south side, occupied by 38 adults and 18 children, from 40 to 80 per cent of whom were constantly affected during those months. This line of quarters was built on made ground, which is still settling. In April, 1895, Major Comegys reported the sewerage as "doubtful." The department commander called for a more explicit statement, in response to which extracts from the 1894 reports were submitted, together with indorsements, as follows:

Maj. E. T. Comegys.—The particular part of the sewerage system referred to as "doubtful" consists of the connections of the houses on the officers' lines with their sewer. The houses on the south side are still settling, and breaks in their sewer connections must be expected, but, for reasons given below, it would be inadvisable to uncover these connections unless the amount of money needed for material, labor, etc., be in hand at the commencement of the work. It is true that cardiac depression is not so common now as a year ago when the sewer was occluded, but it still exists to such extent that the use of any drug which may depress the heart's action is almost dangerous. The records of the hospital show a marked increase in malarial cases whenever ground is dug up and exposed for a length of time, and therefore any unnecessarily long exposure of such ground should be avoided.

Maj. J. Egan, post commander.—The main sewer has a fall of about 67 feet from its head to where it enters the bay. It was carefully repaired last season, and all the sewers leading from the houses into it carefully tested. No leakages were found. The sewer of the hospital has been repaired. The post surgeon wants the tile pipes replaced by iron pipes. Where the pipes fall down the slope into the bay they have been replaced by iron pipes. The tile pipes now down in the sewer, and from the houses, seem to me sufficient. Wherever exposed they were in excellent condition, except at the hospital, where they were replaced by new ones. There is a good deal of earth being upturned near the post. I am informed this causes malaria here. The health of the post now, and for sometime, has been as good as it ever was, and better than the adjacent villages.

FORT WASHAKIE, WYO.—In my annual report rendered two years ago I stated that an adequate provision for the disposal of sewage at this post has been urged with more or less earnestness for many years, and at the present time is to be regarded as the greatest sanitary need of the garrison. The opinion of General Schofield was cited to the effect that the troops can not be withdrawn from this place for many years to come, and that the post should be put in condition for indefinite occupation. This subject was again brought up specially by the post surgeon in his report for January, 1895:

Capt. Henry I. Raymond, post surgeon.—The greatest sanitary need of this garrison at the present time is an adequate provision for the disposal of its sewage. This has been urged with more or less earnestness by the medical officers of this post for several years past, and each succeeding year has served to make the exigency more imperative. It has been observed with gratification that new sewerage systems in the meantime have been provided at several posts, and it is thought that the sanitary officer of this post has not adequately represented the bare and unvarnished facts and conditions pertaining to the utter lack of proper drainage and sewerage of this garrison and vicinity. To fully inform the proper authorities, and so discharge my plain duty as sanitary officer of this command, in the earnest hope that so far as thought expedient the existing unsanitary conditions may be radically remedied, I respectfully invite further attention to this subject. Within a radius of 250 yards from the center of the (officers') parade ground or grass plat there are not less than 18 privy vaults, 8 cesspools, and several abandoned filth holes. The contents of these receptacles are saturating the porous earth and contaminating the ground water and ground air, and more or less directly the atmosphere. The cesspools are within dangerous proximity to our barracks and quarters, one being only 3 feet distant, as the house was built over the site of a forgotten cesspool, which opens by

an unobstructed pipe into the kitchen sink 6 feet from the cesspool. The other cesspools pertaining to the officers' quarters are but a few yards removed and open directly into the kitchen apartment. They have no ventilation and are devoid of siphon traps or any substitute therefor. In a subsidiary sanitary report for the current month your attention was invited to the condition of a cesspool well found covered up in the cellar under the hospital kitchen. This well had probably been used formerly for supplying potable water, but I learned that it had later served as a convenient receptacle for the kitchen waste. This has been thoroughly cleaned out, leaving the ground water as well as all such water standing 4 feet in depth. I have no doubt but this ground water, as well as all such water flowing at great or lesser depth beneath the soil of the garrison, is largely impregnated with sewage from the numerous sources I have indicated. Its flow is toward the north side of the garrison, where, near its exit from the bank on the north and northwest side of the post, the ground water approaches very closely to the surface, and running off the bank creates a miserable marsh saturated with this sewage-laden water. Similar conditions obtain on the opposite side of the river.

When, in the season of fluctuating or high ground-water level, the sanitary officer, viewing this widespread disease-breeding area, remonstrates with the Chinese laundryman for upturning his tubfuls of wash water down the incline, he feels himself conscious of having strained at the gnat and swallowed the camel. This ground water should be lowered and its constant level at a sufficient depth below the surface assured, and these marshes drained into the river by porous earthenware pipe or ordinary drain tile. The cesspools are, however, the especial abomination of the post. The hospital alone has none for its kitchen waste, which is systematically carried from the kitchen in buckets and emptied directly into the garbage barrel. This is only practicable with a small detachment and under constant personal supervision, but is not to be recommended for officers' quarters, for the reason that servants will avoid it by throwing the waste water on the ground if no cesspool is provided, or when the waste pipe is clogged up with foreign material.

I am not fully convinced that the scattering of the waste water broadcast over the soil, in contact with the oxygen of the air and the nitrifying action of the bacteria, is more objectionable from a sanitary point of view than the practical working of a hidden receptacle of filth, opening directly into our houses by a nonwater-sealed pipe, which I have seen clogged with dish-rag material, the chief redeeming feature when the pipe is in this condition being that whereas the rag effectually prevents the entrance of waste matters into the cesspool it also shuts off its foul effluvia from the kitchen.

To be sure these evils consequent upon this universally condemned system of sewerage can be mitigated at this post by the construction and use of proper trapping and ventilating accessories and the abandonment of all cesspools in officers' yards and in the vicinity of barracks, and construction of one cesspool for the west and one for the east side of the garrison, distance not less than 50 or 100 feet from buildings. This is only recommended in default of a water-carriage system of sewerage, which alone can atone for and cleanse the foulness of these cesspools, and at the same time remove the sanitary obloquy attaching to this nonwater-closeted, midden-ridden post.

Much of the sickness affecting this garrison during the season of fluctuating or high ground-water level is due to miasmatic influences, preventable by proper sanitation.

I am of opinion that the necessity and desirability of a water-carriage system of sewerage for this post is beyond controversy, and that the question must be relegated to the domain of expediency, of which it is not within my province to speak.

I purposely refrain from mentioning one or two minor matters of sanitary need, in order not to detract attention from the main purpose of this communication, but will do so in a subsequent report.

Maj. A. Kramer, Sixth Cavalry, commanding post.—The inspection made by me in the beginning of the month for the purpose of examining the defects mentioned in this report, and if possible to have them remedied, resulted in bringing to light the following facts: The hospital yard is honeycombed with privy vaults, and therefore when a new vault is needed it will have to be dug a few yards outside of the hospital yard proper in an adjoining field. The cesspool for use of the hospital bathroom is only a few feet from the building, but the space is so limited that this defect will be rather difficult to remedy. The cesspool is not ventilated, and as there is neither money nor material on hand for this purpose it can not possibly be done. No provision has been made for disposing of the waste water from the hospital kitchen, but a cesspool will be dug as soon as the labor can be spared for this purpose. The cesspools in the yards of the officers' quarters are in comparatively good condition, although they are without ventilation, and in most cases very close to the houses on account of the limited space afforded by the yards to dig the cesspools. These cesspools were constructed by me when I took command of the post in 1893, because

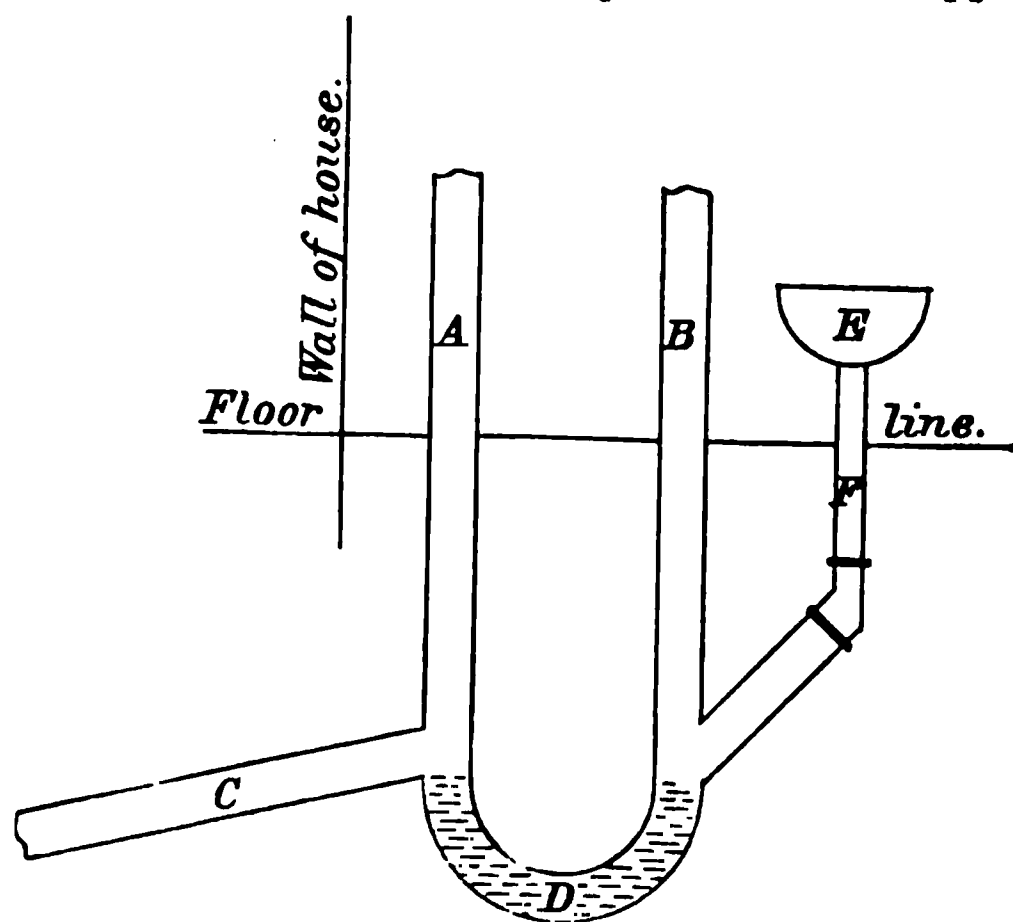
they were necessary and preferable to throwing the waste water from the kitchens over the ground. The vaults are all in good condition with the exception of two, which will be filled up and rebuilt as soon as men can be spared for that purpose. The post has been without a sewerage system since its establishment in 1879, and I have seen no bad effects from this condition since I have been in command. A stratum of gravel is found after digging down about 6 feet, and this readily absorbs the water, and as the fall of the valley in which the post is situated averages about 18 feet to the mile the waste water is carried through this stratum of gravel and comes out east of the post near the river and forms there swampy ground, which, although not healthy, has, so far as I know, not produced any serious disease. I shall remedy the above-mentioned defects as soon as possible and as far as I am able, but on account of the small number of men available for work in the post the progress in this respect must necessarily be slow.

Lieut. Col. Dallas Bache, deputy surgeon-general, medical director.—Were Fort Washakie a more densely populated post, and its permanence assured, the unsanitary conditions which are evident and undoubted would call for some systematic remedy as is proposed; but with a garrison of about 60 officers and men, and a civil population of 43, and without assurance of longevity, no system of waste disposal by water carriage and no expensive subsoil drainage can wisely be considered. Undoubtedly the best plan of dealing with fecal matter at this post is by the dry earth system, closets for the houses, larger troughs for the quarters, the earth being gathered in the summer and suitably stored. This method entails care and supervision, but is easily applied to small populations. The liquid waste from kitchens and bath tubs, being in large quantity, is more difficult to deal with, and probably with the soil conditions described in the first indorsement the cesspool is the best temporary expedient. These pits can be ventilated readily by a box ventilator of good size, the delivery being about 8 feet from the ground and the box painted black. Much may be done to destroy the solid kitchen refuse by burning it in kitchen stoves. Waste pipes leading from kitchens or bathrooms into cesspools should certainly be trapped, care being taken to do this in such a way as to be secure from freezing in cold weather. A system of water carriage is attractive, but with unskilled labor to put it in, or for repair, and under precarious conditions, it entails as many difficulties as the imperfect method under discussion.

WHIPPLE BARRACKS, ARIZ.—The sewer system is reported as wretched in the extreme; the pipes are constantly leaking, and foul odors are prevalent.

This summary of the recommendations made during the year in relation to sewerage may be closed by an interesting illustration of faulty plumbing brought about by altering the original plan, in order to prevent the bursting of traps by frost.

FORT ROBINSON, NEBR.—*Maj. Henry McElderry.*—The house drainage of the six double sets of officers' adobe quarters on the upper line is very defective. The officers and their families living in these adobe quarters are constantly complaining of the bad odor coming from the bathrooms. Upon inquiring of the post quartermaster and of the citizen plumber in the quartermaster's employ, who did the plumbing in these quarters, it is learned that the water-closets and connections in the adobe quarters are arranged as shown in the accompanying sketch.



The water trap D, instead of being placed immediately beneath the water-closet bowl, is located about 5 feet below the floor in the ground on a level with the house drain C. The 6-inch pipes A and B both extend above the roof. The former serves to ventilate the house drain, trap, and sewer adjacent. Through

the latter air is drawn into the house by way of the water-closet bowl E. This air is of course more or less contaminated by contact with the foul 5 feet of soil pipe

connecting the water-closet bowl with the trap below ground, which is constantly covered on the inside with fecal matter. It is also further contaminated by its passage over the contents of the water trap. This trap is 6 inches in diameter, and the soil pipe F, connecting it with the water-closet bowl, being only 4 inches in diameter, the trap can never be properly flushed out. It is therefore constantly covered on its inside with a deposit of fecal matter.

It seems to me that when plumbing fixtures were first put in these quarters the connections were properly made and the trap was properly placed beneath the water-closet bowl, and was properly vented into the soil pipe which extended above the roof. About 6 inches of the old vent pipe still remains attached to the soil pipe. These had been left open, but have all recently been plugged up by the quartermaster. It was stated by the citizen plumber that the water traps immediately beneath the earthenware water-closet bowls were found to break so often from their contents freezing in the winter time, owing to the difficulty in keeping these adobe quarters properly warmed at night in winter, that the earthenware bowls were finally taken out and the present galvanized iron hopper bowls substituted for them, and the trap put down about 5 feet under ground on a line with the main house drain and the connections made as above.

The post commander.—Regarding the plumbing in the adobe officers' quarters mentioned, the post quartermaster informs me that it has been his constant experience for nearly four years that the plumbing in the bathrooms can not be kept from freezing, even in the daytime, when the weather is cold, except by keeping the water turned off and the pipes drained, it being impossible to drain the trap in the closet; it was constantly freezing up and bursting, and soon after the houses were built it was found necessary to build the traps as now located. These houses are poorly constructed, being poorly ceiled overhead instead of plastered, and having a single floor, which is also poorly laid; it is very hard to keep any part of them comfortable. Estimates have been made for reflooring them and plastering the ceilings, but funds have never been allowed. These estimates will be repeated this year, and, if approved and double windows placed in the bath rooms, the quartermaster informs me he thinks it would be possible to maintain this plumbing in a sanitary condition.

WATER SUPPLIES.

The chief items of interest that have been reported during the past year in connection with the water supplies of our military posts are as follows:

ALCATRAZ ISLAND, CAL.—The fresh water of this post is supplied by steamer from the mains of the Spring Valley Water Company. The arrangements for storage were described in my report for the fiscal year 1893. During the past year the local press reported foci of contamination in the vicinity of the feeders of the lake, from which the supply is derived. Capt. H. E. McVay inspected the drainage area, and found several hog ranches, market gardens, and small unsewered settlements, which must of necessity contaminate the water, notwithstanding the dams which have been built to intercept unfiltered drainage.

FORT ADAMS, R. I.—No unfavorable remark was made on the Newport Water Works supply of the post during the year.

FORT ASSINNIBOINE, MONT.—Beaver creek, from which the supply of the post is derived, became dry in August, 1894. Water for drinking and washing was obtained from a spring in the neighborhood.

FORT CLARK, TEX.—The protection of the Las Moras spring appears to be still an unsolved problem. In August, 1894, the spring was twice flooded by storm water from the arroyo, due to heavy rainfalls and the giving way of the retaining wall. The latest proposition for the protection of the water is conveyed in an indorsement on the sanitary report for September by Col. F. L. Town, assistant surgeon-general:

It would seem to me to be a matter of no extraordinary difficulty to properly protect the spring at Fort Clark from overflows, etc. At least it never appeared to me a difficult problem, and I was formerly post surgeon there two years. I think the spring lake should be reduced to one-fourth or one-sixth of its present size and solidly walled in, and then be surrounded by a high dirt embankment, with an out-

side heavy wall laid in cement, some eight or ten feet high. This would probably afford all needed protection, but would be of course somewhat expensive. It is the expense only that is the difficult problem in accomplishing the desired result; but I believe the cost of the work indicated would not exceed \$4,000, perhaps not even \$3,000, less than the cost of one single set of quarters at the post, or of the pumping apparatus.

The post surgeon, Maj. H. S. Kilbourne, refers to a survey of the water site by the engineer officer of the department, but no action was reported until May, 1895, when it was stated that the masonry approaches of the footbridge below the spring, which hitherto have obstructed the channel of the creek in times of high water and favored the overflow of the spring by back water, have been removed. Up to June 30 there had been no overflow this year, although the rainfall had been considerable. Distilled water in quantity sufficient for a supply for drinking, 400 to 600 gallons daily, has been delivered regularly from a tank wagon used only for this purpose.

COLUMBUS BARRACKS, OHIO.—An insufficiency of water was reported at this post in July, 1894. All the upper floors of the garrison were without water, and the upper floor closets, used by 300 men, were in foul condition on this account. The danger from fire in the absence of water was also very great. The scarcity of water was due to the insufficient size of the mains and their connection with the west side pumping station of the city waterworks company, between which and the post the water pressure was greatly reduced by friction and a large number of distributing offsets. A 6-inch pipe was immediately laid down and connected with the east side pumping station, which is much nearer to the post than the other, and has fewer outlets from its mains. Since then the water supply has been ample, except on occasions when it is freely used on the lower floors, or when the pressure is reduced by a general waste of water in the city to avoid freezing in the pipes.

FORT COLUMBUS, N. Y.—In consequence of newspaper criticism in July, 1894, on the quantity and quality of the Brooklyn water, from which this station draws its supply, the medical director addressed a communication to the commissioner of works of that city asking for a report of recent analysis. In reply a report was received which showed the quality of the water to be good. Certain of the sources of supply were contaminated by the drainage and sewage of settled sections of the watershed, but the water from these had not materially affected the general average of the city supply. In January, 1895, the water was turbid, but this unusual condition of the supply did not last long. The water pipes in Castle William are so exposed that they often become frozen in cold weather.

FORT CUSTER, MONT.—In my last annual report I referred to the contamination of the water supply of this post by the offal and drainage of the slaughterhouse of the Crow Agency on the Little Big Horn river, and to efforts made for an abatement of this insanitary condition. These efforts have been unsuccessful. In March, 1895, the water was turbid and had a foul odor and disagreeable taste. Filtration was recommended. In April the post commander, under instructions from department headquarters, sent the post surgeon, Capt. P. R. Egan, to inspect and report as to whether the agency slaughter pen and other sources of contamination had been removed. He reported that the slaughter pen continued to discharge its refuse and offal into the Little Big Horn. The foul condition of the river every spring was believed to be due to the washing into it of the winter accumulations of organic refuse from the slaughterhouse and from the large Indian camps on the river. In the summer and autumn nearly all the water in the river is used for irriga-

tion before it reaches the post. Similar conditions will soon exist in the Big Horn. The subagency on this river is building a slaughterhouse. An irrigating ditch is to be taken out above Fort Smith, and a large number of Indians will live along the river on the vast tract to be irrigated. A system of sewerage to empty into the river was in contemplation, but according to the report of the post surgeon the agent intended before taking steps in this direction to send a communication to military headquarters to obtain information as to whether such a system would be compatible with a healthy water supply for the post. The sick list at this post was exceptionally low during the year, but in September it was complicated by the appearance of typhoid fever in five persons living at the post, while the presence of this fever was beginning to be manifested on both the Little and Big Horn rivers above the intake of the water supply. The post surgeon therefore strongly urged the adoption of some system of filtration, but the insanitary conditions of this stream are so extensive and serious that efforts should be made to discover another source of supply. Failing in these, the question of purifying the impure river water might be considered. The comments of the medical director on the conditions are as follows:

It is true that the health of the command at Fort Custer has been exceptionally good in spite of the pollution to which the water supply has been subjected. At the date of my recent visit of inspection to that post the post surgeon reported to me the existence of several cases of typhoid fever in the immediate vicinity, one of which terminated fatally before my departure. It is believed that the conditions which are responsible for the contamination of the post water supply are of a permanent and increasing character, and that sooner or later they will have a very injurious effect upon the health of the command. The present apparent immunity should not be allowed to engender a misplaced sense of security, from which there may be a rude awakening.

FORT HAMILTON, N. Y.—In my last report it was stated that owing to the growth of settlements in the vicinity the service main from the Brooklyn waterworks was now too small to give the post an adequate supply. The insufficiency became such during the past year that upper floor closets had on several occasions to be flooded by water carried in buckets from below. This condition was remedied by connecting with a main which gave a higher pressure. In March, 1895, the post surgeon reported the supply as abundant and of excellent quality.

JEFFERSON BARRACKS, MO.—A similar deficiency of water heretofore reported at this post was remedied in part during the past year by the aid of a pump at the city limit line.

FORT LEAVENWORTH, KANS.—The water supply continues as described in my report for the fiscal year 1892. It is derived from the Leavenworth city waterworks, which pump from the Missouri River close to the shore and about three-fourths of a mile below the inflow of the sewage of the post. The question of a pure supply from deep wells has been under consideration by the authorities of the military prison: some borings were made during the past year. On June 8, 1894, a sample of water was found to contain 43 parts, per 100,000, of dissolved solids, .8 of chlorine, .020 of free ammonia, .009 of albuminoid ammonia, no nitrites, a trace of nitrates, and it required .080 of oxygen to oxidize organic and other matters. The sample was excessively muddy; but for this it might have been regarded as fit for use. The pipe from which this sample was taken was sunk 118 feet through sandy loam, quicksand, white sand, coarse gravel, and lime rock to a bed of hard, blue clay. The water was found in the coarse gravel 60 feet from the surface. The boring was in the river bottom, half a mile from the river. This bottom is embraced in a bend of the

river, and has an area of about 3 square miles, surrounded by wooded bluffs which rise to a height of 250 feet. In October the prison quartermaster submitted an estimate, \$23,634, of the cost of purchasing a plant, building a reservoir, and making connection with the mains at the post. On this the commandant recommended that authority be granted to advertise for bids for expert examination, cost not to exceed \$725, and prison labor to be furnished, with a view to putting in a water system if a sufficiency of pure water should be found. As the analysis of June, given above, was not satisfactory, I had a careful examination of the water made in November. The water was turbid, as in the former instance, and gave somewhat similar results. In parts per 100,000, free ammonia, .017; albuminoid, .003; chlorine, .9; oxygen required, .112; nitrites, none; nitrates, a trace; total dissolved solids, 25.20. Notwithstanding the presence of so much free ammonia the water was regarded from this analysis as suitable for use if freed from the earthy matters causing its turbidity.

FORT MEADE, S. DAK.—The condition of the water supply at this post remains unchanged. The hardness of the spring supply piped to the post is its chief objectionable feature.

CAMP MERRITT, MONT.—The conditions of the water supply at this camp are fully explained in the following extracts:

Lieut. J. M. Kennedy, assistant surgeon, December, 1894.—The supply of water is abundant, and is obtained from a spring in the bank of the creek opposite the camp in rear of the barracks. The spring is about 6 feet from, and its water level about 4 inches above, that of the pond. The pond consists of backwater from a dam across the creek a few miles below the spring, and keeps the earth around the spring saturated with its polluted waters. The pond contains all the drainage and sewage from the agency, and is necessarily very filthy. It is used for bathing in summer and as a source of ice in winter.

Capt. Owen J. Smith, Twenty-fifth Infantry, commanding post.—The pond, which since the location of this camp has been the main reservoir of all the surface drainage of the Upper Lame Deer Valley, is recognized as the source of the contaminating influences referred to in this report. The dam which makes this pond will in some way be opened at once to allow the accumulating filth to drain off and lessen the height of the backwater. If a new dam and pond is to be built the work will have to be accomplished next summer, as the cold season is too far advanced for men to work in mud and water now, unless imperatively necessary. I cut a ditch around and drained the pond off in the summer of 1893, but an inspection shows the bottom to be well filled now with drainage and sewage.

Col. C. C. Byrne, assistant surgeon-general.—It is evident that the water in the pond in question is too filthy for bathing purposes, and that ice obtained from such a source must be absolutely unfit for use and teeming with the germs of disease. Even if this were not the case, the fact that the foul water of the pond stands only 4 inches below the level of the spring from which the water supply of the camp is obtained, saturating the adjacent soil, is sufficient reason for its prompt removal. I therefore recommend that the dam by which the water is retained in the pond be at once removed, that the building of a dam at any point on Lame Deer creek be forbidden, and that all drains under the control of the commanding officer of Camp Merritt be made to empty into the creek below the spring.

Brig. Gen. W. Merritt, commanding department.—Instructions have this day been given for the removal of the dam at once, and forbidding the building of a new one without permission from these headquarters.

FORT MYER, VA.—Work on the artesian well at this post appears to have been suspended, but the question of a water supply has received a temporary settlement during the year by pumping from the Potomac river near the Aqueduct bridge into reservoirs and providing Columbia and Pasteur filters in the barracks for the purification of that part of the supply intended for household use. On this subject the post surgeon reported as follows:

The officers' quarters had Columbia filters attached to the supply pipe of each house (fourteen in all) during the month of November, 1894. The Columbia filter discharges a flow of water slowly and fairly presentable; that is, most of the sus-

pended matter being separated, leaving a clear water for consumption. These filters need constant attention, and though said to be automatically self-cleaning the sand is frequently caked, thus blocking the flow and making the apparatus hard to clean, and it easily becomes out of order. On January 10, 1895, Pasteur filters were introduced into the quarters and mess hall (five in all) for the use of the enlisted force of the command. The Pasteur filters are not self-cleaning; they are cleaned weekly, or biweekly, as the condition of the water filter demands; then the porcelain tubes are removed, washed in hot water and soap, and brushed. They are not calcined or sterilized by heat. These Pasteur filters give good results when frequently cleaned: a rapid flow of water is obtained apparently of good quality and perfectly transparent.

On April 19, 1895, the following recommendation was made to the post adjutant: " * * * that all water used for potable purposes be thoroughly boiled. The mere filtration of drinking water does not remove the germs that cause most of the sickness at this post. If the water used for drinking purposes can be drawn from clean filters and then boiled it would supply the command with water that will be free from organic impurities, and in so doing will place the command in comparative safety so far as its water supply is concerned." * * *

At the present time, July 26, the command is using water obtained from the Potomac river at the Aqueduct bridge that has passed through filters and then been sterilized by boiling. The exact site of supply is in the Potomac river, about 50 feet from the east side of the Aqueduct bridge and about 10 feet from the south side of the river at low tide. A 6-inch iron pipe is introduced into the river at this point, so that it is 4 inches below the water line at low tide, the pipe being surrounded by a boxing.

At the west side of the Aqueduct bridge, on the north side of the river, a brick sewer empties into the stream, about 1,500 feet below this point another sewer empties into the river, and about 1,200 feet below this there is a third one. These sewers drain the area of Georgetown Heights, and according to a report of typhoid fever in the District of Columbia, published under date of June 14, 1894, this area, shown on map No. 1 as district No. 5, gave 52 deaths from typhoid fever from 1888 to 1892, inclusive. The same district on map No. 2 shows 18 public pumps in use in 1888 and the same number in 1894. On map No. 4 the number of box privies is shown to be 1,177. The emptying of sewage from such a district into the river adjacent to the source of water supply for this post is considered dangerous, in view of the topography of the river at this point and the tidal wave. On February 4, 1895, request was made to the Surgeon-General for bottles for the collection of samples of water from different points to determine whether or not our source of water supply was in danger of pollution from the sewage of district No. 5. Unfortunately the collection of the samples was not made, as about this time the river at this point was thrown into an abnormal condition by the active operations of constructing a cofferdam, and cinders, clay, straw, cement and large quantities of refuse from the Aqueduct bridge were thrown into the river not 100 feet from our source of water supply. On this cofferdam is a privy for the use of the workmen. To make any examination of water under such conditions as these seemed to be unnecessary. The collection is therefore deferred until such time as the river assumes its normal condition. From the site of water supply, as above stated, the 6-inch iron pipe is conducted to the water tank in rear of the riding hall, where it discharges its contents into the tank at the bottom. This tank stands 30 feet from the ground, and will hold 30,000 gallons. It is proposed to raise this tank to 50 feet and to erect an iron tank adjacent to the present one, to hold 30,000 gallons and to stand 50 feet from the ground. Close to the riding hall a 4-inch pipe comes from the 6-inch main and leads into the old tank at the southeast end of the garrison, which holds 20,000 gallons and stands 25 feet from the ground. This tank is kept full as a reserve supply, and is shut off from the main pipe by a valve. Supply pipes arise direct from the 4 and 6 inch mains to supply the various buildings.

PLATTSBURG BARRACKS, N. Y.—The water supply of this post is from the Plattsburg waterworks. This company obtains its water from two small brooks, the Meade or West brook and the Ostrander or East brook, which spring from the foot hills of the Adirondacks about 12 miles northeast of the post. The underlying formation of the foothills is Potsdam sandstone, the subsoil compact sand, and the surface soil coarse gravel and sand. There is some swampy land along their course, and the drainage from a few farms enters the streams. The two brooks join about 6 miles north of the village, forming what is called the Ostrander pond. On the east side are some farms, on the west the ground is low and swampy. The current through the middle of the

pond is so rapid that no subsidence can take place. From this the water is conducted by gravity to a reservoir 1 mile north of the village.

Capt. H. O. Perley analyzed the Plattsburg water and, by way of comparison, that of Lake Champlain, taken 100 yards from shore near the Government boathouse. His results were reported as follows:

Plattsburg water supply.—Clear; moderate luster; yellowish-brown in 2-foot tube; odor faint, as of decayed wood; taste not unpleasant. Hardness, 10° of Clark's scale; permanent, 6°. Sediment containing diatoms, rotifers and infusoria. In parts per 100,000, free ammonia, .0012; albuminoid, .0189; chlorine, .15; oxygen required, .178; nitrogen, in nitrates and nitrites, .25; total solids, 12.4, of which 4.4 were dissipated with difficulty by heat, giving heavy, black, wavy lines in the capsule.

Champlain water.—Clear; good luster; faint straw color; odor, none; taste agreeable. Hardness, 3.5°; permanent, 3°; sediment, a few diatoms and mineral fragments. In parts per 100,000, free ammonia, .0012; albuminoid, .0144; chlorine, .1; oxygen required, .189; nitrogen, in nitrates and nitrites, .018; total solids, 6.25, of which 3.25 were dissipated by heat, leaving fine, brown, wavy lines.

FORT RENO, OKLA.—The water problem at this post remains unsolved. The supply for drinking is understood to be condensed from the ice machine or wagoned from Caddo Springs. The results of an examination of the water from a boring in the river bottom in August, 1894, did not differ from those of an analysis made in May of that year. The water was too hard for potable or domestic use, containing 118 parts of dissolved earthy salts per 100,000 of the water.

ST. FRANCIS BARRACKS, FLA.—The artesian water at this post was reported throughout the past year as unsuitable for laundry purposes on account of its hardness, and for drinking on account of being tainted with hydrogen sulphide. After boiling or exposure to the air the taint disappears, but there are few persons at the post who care to use the water. Rain water from cisterns is used for drinking and all domestic uses.

FORT SHERMAN, IDAHO.—According to Maj. J. C. Merrill, post surgeon, the quantity of water used amounts to about 50 gallons per head daily. This quantity could be largely increased if needful. The following are the results of the examination of this water by Asst. Surg. W. E. Purviance:

Colorless; transparent; no visible sediment; no odor; taste, potable; hardness equivalent to 1 part of lime carbonate per 100,000 of the water. Total solids, 3.1 parts per 100,000; chlorine, .25; free ammonia, .001; albuminoid, .001; nitrates, .008; nitrites, none; oxygen absorbed, .020. The deposit on a Columbia water filter used with this water consisted chiefly of masses of a brownish-yellow alga, spicules of fresh-water sponges, broken threads of confervæ, minute rotifers, and two species of diatoms. There were discovered also cotton fibers and a few epithelial cells. These last throw suspicion on an otherwise excellent water. They may have been blown into the river from the post or washed into the lake at the neighboring town of Coeur d'Alene. No lead was found, although looked for in view of the galena mines on the Coeur d'Alene river.

FORT YELLOWSTONE, WYO.—The dam at this post leaks badly, and the reservoir is foul and can not be cleaned without cutting off the supply of the post temporarily. It is understood that the construction of a new reservoir is under consideration.

FOOD.

Very little adverse criticism on the food of the soldier or the methods of its preparation is found in the sanitary reports. Usually these reports are to the effect that the food is ample in quantity, varied in kind, and well cooked. As issued by the Subsistence Department, or provided for by contract, the articles of the ration have been of good, marketable quality. At one post, Angel Island, Cal., it was stated that

in December, 1894, a recent issue of green coffee had been found unfit for use on account of the destructive action of insects. The issue of tainted meat as an accidental occurrence was reported from only two of the posts. In one instance the matter was brought to the attention of the commanding officer; in the other, which occurred at Fort McPherson, Ga., it is stated that fifty cases of mild diarrhea reported for treatment at the hospital in a single day as a consequence of the use of this meat. Two medical officers took exception to the general character of the meat issued at their posts. Capt. W. W. Owen, jr., reported the beef issue at Fort Bayard as very poor during the month of May, 1895. The chief commissary of the department, criticising this report, explained that a special contract for beef from carcasses weighing not less than 500 pounds net was made for the supply of this post, and that the contract specified fully the powers of the commanding officer and assistant commissary of subsistence to obtain a proper quality of beef when the contractor failed to furnish it. At Fort Reno, Okla., Maj. H. M. Cronkhite reported the fresh beef issued by the contractor during November, 1894, as of poor quality, exceedingly tough, and containing an excess of bone, although the contract price was higher than the hospital had to pay for much better beef in the markets of the town of Reno. The commanding officer referred this report to the commanders of companies (seven in number) at the post, who each reported that the meat, although not of the best quality, was not such as to warrant a formal complaint. These statements, however, did not alter the opinion of the post surgeon.

At Fort McPherson, Ga., the bread is said to have been frequently sour in December, 1894, but the cause is not stated. At Fort Sheridan, Ill., a similar fault in the quality of the bread in September, 1894, and January, 1895, was attributed to want of skill and care on the part of the baker. Sour and dark-colored bread at Fort Meade, S. Dak., was at one time due to an inferior quality of flour, which was immediately withdrawn by the contractor.

The condition of the soldiers' bakery at West Point, N. Y., was made the subject of report by Capt. C. F. Mason. This bakery consists of only one room, in which all the work has to be conducted. It has no provision for ventilation, so that dust of all kinds accumulates and when stirred up is merely redistributed. The ceiling is low, the walls of brick, and the floor of uneven and irregular slabs. The bread box is in a dark corner and covered, like everything else, with dust, and the dough trough, where its bottom has shrunk, is choked with old dough. The water faucet has no sink beneath it and the waste water seeks outlet through the cracks in the floor. The post treasurer invited attention to the fact that in May, 1894, he applied for certain repairs and alterations for the improvement of the bakery, but was denied the necessary allotment of funds.

CLOTHING.

Few critical remarks were made on this subject during the year, from which it may be inferred that the clothing issued gave satisfaction generally. Full expression is given to this satisfaction by Capt. W. C. Gorgas, who referred the unusual good health of the garrison of Fort Barrancas, Fla., during the hot summer and autumn, to the fact that the men were allowed to wear the white uniforms at all times and on all occasions.

Capt. Paul Clendenin, at Fort Brady, Mich., considered the clothing, with the exception of the underclothing, suitable for the climate of his northern post. Marked improvement was noted in the issue of knit wool drawers, and of a less irritating quality of undershirt; "but these are not yet what they ought to be. They should be made of a soft, long-fibered wool with an admixture of cotton (an undesirable element, but necessary to prevent shrinking), loosely woven, thick, and warm. The wool alone required to make such a garment can not be purchased for the price of the shirt now issued, 39 cents."

Captain Clendenin characterized the shoe issued at present as susceptible of great improvement in the quality of the leather, and in the fit. In this he is sustained by the experience of Majors Havard and Worthington. The former, post surgeon at Davids Island, reported a number of cases of disability from corns due to the pressure of the hard leather of Government shoes. Major Havard considered that soldiers should be permitted to have their shoes made where they please, so as to secure a good fit, provided certain regulations as to shape, color, etc., are observed. The medical director approved of this suggestion; but it appears to me that it would be better to have shoes issued by the Government that would fulfill all the requirements for the service of the soldier.

HABITS, CLEANLINESS, ATHLETIC EXERCISES, ETC.

A better appreciation of the habits of the men may be obtained by a consideration of what has been said in discussing the prevalence of venereal diseases and alcoholism than by extensive citations from the reports from individual posts. The post exchange is not suggested as a causative agent in the brawls and breaches of discipline occasionally reported as the result of alcoholic excesses. Usually these are attributed to the facility with which whisky can be procured in the neighboring civil settlements. As a rule the men are clean, well set up, and soldierly in appearance. The facilities for bathing have been improved greatly of late years, so that current sanitary reports have no reference to the absence of means for this purpose except at the recently reëstablished post of Key West Barracks, where there is only salt-water bathing; and this, although valuable as an athletic exercise and recreation, is unsatisfactory for the maintenance of personal cleanliness. At a few posts the condition of the bath house is criticised, as at Fort Missoula, where it is said to be too small and poorly lighted to be kept in good condition. The department commander directed that estimates be prepared for the construction of a new building or of an addition to the present one. At Fort Robinson and West Point the accommodations for bathing were reported as inadequate.

The building of a gymnasium was urged by the medical officers of certain posts. I gave the arguments of Capt. P. Clendenin, of Fort Brady, on this proposition in my last report. In December, 1894, he renewed his suggestion in the following terms:

The men are doing excellent work with the gymnasium apparatus, purchased by the exchange, under the instruction of good men. But it does appear that at a four-company post where the climate compels practically an indoor life for the men during five months of the year a gymnasium building should be constructed by the Government and thoroughly equipped. The training to be obtained by such an institution is fully as important to make good soldiers as is the drill prescribed by the tactics, and it is especially important here where drills have to be suspended for so much of the time.

Lieut. H. C. Fisher made a similar recommendation on behalf of Fort Yates:

Attention is especially invited to the need of a building for gymnasium and amusement rooms at this post. During the long winters sufficient out-of-door exercise is impossible. The barracks are not only miserable structures, but greatly overcrowded, dark and dismal. From these cheerless habitations the temptation is as great as is the contrast to the dance halls of Winona. It is self-evident that with a larger amount of pure air in the barracks and properly used facilities for exercise, the number of admissions to sick report would be lessened and the constitutions of the men strengthened so that disease could be sooner thrown off when incurred.

The recommendation of Maj. L. M. Maus, at Fort Sam Houston, for a gymnasium and library building with bowling alleys for the training, exercise and comfort of the command was approved by the post commander, who purposed having estimates forwarded for the construction of such a building.

STATISTICAL TABLES.

The following statistical tables give in detail the data on which the statements of this report are based. They are:

I. Numerical view of the effects of disease and injury on the Army during the calendar year 1894 as compared with the corresponding data of the year 1893 and of the decade ended December 31, 1892.

II. The relative sickness of the troops (white, negro and Indian) in the various military departments during the year 1894.

III. The military posts in each department, alphabetically arranged, with mean strength, admissions for disease and injury; also deaths and discharges, with ratios per thousand of strength for admissions and noneffectiveness, the averages of daily sickness, and the meteorological data for the year 1894.

IV. General view of the results of disease and injury at each of the military stations, arranged in the order of their mean strength.

V. Twenty posts having the highest rates of admission for the year; the said rates compared with those of 1889 to 1893, inclusive.

VI. Twenty posts having the lowest rates of admission for the year; the said rates compared with those of 1889 to 1893, inclusive.

VII. Twenty posts having the highest rates of noneffectiveness during the year; the said rates compared with those of 1889 to 1893, inclusive.

VIII. Twenty posts having the lowest rates of noneffectiveness during the year; the said rates compared with those of 1889 to 1893, inclusive.

IX. Twenty posts having the highest admission rates for disease, excluding venereal diseases, vaccina, and alcoholism, together with their ratios for deaths, discharges, and constant noneffectiveness; also the corresponding average rates of the Army.

X. Twenty posts having the highest noneffective rates for disease, excluding venereal diseases, vaccina, and alcoholism, together with the average number sick daily, and average duration of each case; also the corresponding average rates of the Army.

XI. The military posts in each department, showing the rates of admission, death, discharge, and noneffectiveness for disease, not including venereal diseases, vaccina, nor alcoholism.

XII. The rates per thousand of strength of admission, death, discharge, and noneffectiveness of the Army and of the troops in the several departments for the year, as compared with those of the decade 1883-1892.

XIII. Distribution of specific febrile diseases at United States military posts during the year.

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XV. Twenty posts giving the highest noneffective rates for malarial diseases, rheumatism, diarrheal and venereal diseases, respectively.

XVI. The prevalence of alcoholism at the various posts and its influence on the effective force of the garrisons.

XVII. The relations of certain diseases and classes of disease to the several arms of the service, and to the age, nativity and length of service of individuals, in average annual rates per thousand of mean strength, for the period 1890-1894, inclusive.

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V. Movements of sick according to the most important diseases.

VI. Admissions of important diseases by branches of military service.

VII. Admissions of important diseases by months.

VIII. Deaths according to years of service and age.

TABLE I.—Numerical view of the effects of disease and injury on the Army during the calendar year 1894 as compared with the corresponding data for 1893 and for the decade 1883-1892.

United States Army	White.	Negro.	Indian. ¹	Total
Average strength shown by returns of Adjutant General shown by reports of Medical Department	*24,995	*2,235	*444	*27,674
All admissions to sick report during year	*22,904	*2,088	*386	*25,378
treated in hospital	25,571	1,693	389	27,653
treated in quarters	14,214	1,075	205	15,494
treated in field	10,343	567	184	11,094
Ratio of all admissions per 1,000 of mean strength	1,116.44	911.60	1,007.77	1,089.73
for previous year	1,314.73	1,112.93	1,011.19	1,289.04
for preceding decade	1,360.60	1,523.11	1,384.02	1,376.89
Admissions for disease	19,864	1,201	291	21,456
ratios per 1,000 of mean strength	871.64	575.74	753.89	845.52
for previous year	1,076.51	851.61	742.66	1,048.01
for preceding decade	1,110.72	1,224.11	1,045.81	1,121.06
Admissions for injury	5,007	492	96	6,197
ratios per 1,000 of mean strength	244.80	235.86	253.89	244.21
for previous year	238.22	261.32	268.53	241.08
for preceding decade	249.94	308.99	338.21	255.83
Ratio per 1,000 of mean strength of cases treated in hospital	620.59	515.34	631.09	610.58
of cases treated in quarters	451.58	271.81	476.69	437.19
of cases treated in field	44.27	24.45	—	41.97
Number constantly noneffective during year	805.78	54.08	15.27	875.11
ratios per 1,000 of mean strength	35.18	25.03	39.52	34.49
for previous year	41.09	32.91	35.13	40.15
for preceding decade	42.35	43.99	43.86	42.51
Days lost on account of sickness during year	204,199	19,779	5,508	219,416
average for each man of Army	12.8	9.5	14.4	12.6
for previous year	15.0	11.7	13.8	14.7
for preceding decade	15.5	16.1	15.9	15.5
Average days each case was treated	11.5	11.7	14.3	11.6
for previous year	11.4	10.5	12.7	11.4
for preceding decade	11.4	10.5	11.5	11.3
Average days treatment for patients discharged for disability	75.08	82.71	75.87	75.54
who died	18.25	21.14	18.00	16.71
Discharges for disability	339	21	8	368
ratios per 1,000 of mean strength	13.56	9.40	18.02	13.30
for previous year	14.98	10.17	28.69	14.93
for preceding decade	20.50	26.50	23.72	26.48
Discharges for disease	265	17	6	288
ratios per 1,000 of mean strength	10.60	7.61	13.51	10.41
for previous year	12.37	7.63	27.32	12.36
for preceding decade	22.29	21.97	20.99	22.25
Discharges for injury	74	4	2	80
ratios per 1,000 of mean strength	2.96	1.79	4.50	2.89
for previous year	2.61	2.54	1.37	2.87
for preceding decade	4.21	4.53	2.74	4.23
Deaths from all causes	162	14	9	185
ratios per 1,000 of mean strength	6.48	6.26	20.27	6.69
for previous year	6.59	7.63	15.03	6.91
for preceding decade	8.09	9.14	16.42	6.22
Deaths from disease	111	10	5	126
ratios per 1,000 of mean strength	4.44	4.47	11.26	4.55
for previous year	4.79	4.66	9.56	4.61
for preceding decade	5.54	6.47	9.12	5.64
Deaths from injury	51	4	4	59
ratios per 1,000 of mean strength	2.04	1.79	9.01	2.13
for previous year	2.81	2.97	6.46	2.89
for preceding decade	2.55	2.67	7.30	2.58

¹ Indians included for two years of decade only.

² Used in computing the ratios of deaths and discharges for the Army.

³ Used in computing all ratios for the Army except those of deaths and discharges.

TABLE II.—Relative sickness among the troops (white, negro and Indian) in the various military departments during the year 1894.

Department.		Mean strength of command.	Admissions.						Admission rate per 1,000 of mean strength.	Troops per 1,000 of mean strength constantly non-effective from sickness.
			Quarters.	Hospital.	Field.	Disease.	Injury.	Total.		
East	W..	7,119	3,348	5,079	32	6,911	1,548	8,459	1,188.23	34.38
	N..	73	34	62	.....	77	19	96	1,315.07	45.89
	I..	60	41	28	.....	52	17	69	1,150.00	38.83
	T..	7,252	3,423	5,169	32	7,040	1,584	8,624	1,189.19	34.53
Missouri.....	W..	3,989	1,880	2,320	286	3,394	1,092	4,486	1,124.59	33.79
	N..	67	26	68	.....	64	30	94	1,402.98	39.46
	I..	54	40	11	.....	40	11	51	944.44	71.59
	T..	4,110	1,946	2,399	286	3,498	1,133	4,631	1,126.76	34.29
Dakota	W..	2,414	1,054	1,169	283	1,835	621	2,456	1,017.40	31.89
	N..	969	186	438	21	453	192	645	665.63	20.39
	I..	128	26	77	.....	81	22	103	804.00	36.04
	T..	3,511	1,266	1,684	284	2,369	835	3,204	912.56	28.79
Platte.....	W..	1,876	994	1,007	41	1,563	479	2,042	1,068.48	35.14
	N..	393	159	317	.....	320	156	476	1,211.12	31.35
	I..	99	47	62	.....	85	24	109	1,101.01	28.29
	T..	2,368	1,200	1,386	41	1,968	659	2,627	1,109.38	34.22
Texas.....	W..	1,858	1,142	1,512	79	2,258	475	2,733	1,470.94	50.27
	T..	1,858	1,142	1,512	79	2,258	475	2,733	1,470.94	50.27
Colorado.....	W..	2,710	1,198	1,678	67	2,280	663	2,943	1,065.96	34.82
	N..	579	162	188	30	292	88	380	656.31	22.39
	I..	45	30	27	.....	38	19	57	1,266.67	37.82
	T..	3,334	1,390	1,893	97	2,610	770	3,380	1,012.80	32.79
California.....	W..	1,460	323	836	240	1,076	323	1,399	958.22	30.66
	T..	1,460	323	836	240	1,076	323	1,399	958.22	30.66
Columbia.....	W..	1,445	404	591	36	753	278	1,081	712.49	23.56
	T..	1,445	404	591	36	753	278	1,081	712.49	23.56
Hot Springs.....	W..	33	.....	22	.....	20	1	22	666.67	.....
	N..	5	.....	2	.....	1	1	2	400.00	.....
	T..	38	.....	24	.....	21	2	24	631.58	.....
Deaths and discharges at large.....	W..	.....	.....	.....	.....	.....	.....	.....	.....	.....
	N..	.....	.....	.....	.....	.....	.....	.....	.....	.....
	T..	.....	.....	.....	.....	.....	.....	.....	.....	.....
The Army....	W..	22,904	10,343	14,214	1,014	20,090	5,481	25,571	1,116.44	35.18
	N..	2,086	567	1,075	51	1,207	486	1,693	811.60	25.93
	I..	386	184	205	.....	296	98	394	1,007.77	30.52
	T..	25,376	11,094	15,494	1,065	21,593	6,065	27,658	1,089.73	34.49

TABLE II.—*Relative sickness among the troops (white, negro and Indian), etc.—Cont'd.*

Department			Deaths	Annual death rate per 1,000 of mean strength	Discharges for disability	Annual discharge rate per 1,000 of mean strength	Average duration of treatment among patients—		Death rate per 1,000 of admissions.	Discharge rate per 1,000 of admissions	Recoveries per 1,000 of admissions.	Average sick daily.	Average duration of treatment among all admissions.
							Who died.	Who were discharged for disability					
East	W		47	6.00	94	13.20	18.38	65.16	5.56	11.11	972.10	244.14	10.6.
	N		3	41.10	3	41.10	26.33	31.00	31.25	31.25	968.75	3.38	12.65
	I		3	50.00					43.48		956.66	2.32	12.26
	T		54	7.11	97	13.38	17.79	64.09	6.15	11.25	972.63	250.38	10.60
Missouri	W		23	5.77	49	12.28	8.17	73.08	5.13	10.92	971.47	134.42	10.94
	N				1	14.93		186.00		10.84	989.36	2.64	16.26
	I		1	18.52					19.61		980.39	3.87	27.67
	T		24	5.84	50	12.17	7.83	75.43	5.18	10.80	972.79	140.93	11.11
Nakota	W		11	5.39	39	16.16	3.69	89.11	5.29	15.88	983.30	70.76	11.40
	N		5	5.16	6	6.18	5.60	71.67	7.75	9.30	973.64	19.66	11.13
	I		2	15.63	5	39.97	5.50	70.80	19.42	48.53	916.17	4.01	16.35
	T		20	5.7	50	14.24	4.45	85.20	6.24	15.61	980.65	101.04	11.48
Platte	W		16	8.51	12	6.40	15.25	94.83	7.84	5.88	978.46	65.92	11.78
	N		3	7.61	2	5.06	12.33	86.00	6.30	4.20	960.06	12.32	9.45
	I		3	30.30	2	20.20	50.33	61.00	27.52	18.35	926.61	2.79	9.35
	T		22	9.29	16	6.76	19.64	89.50	8.37	0.00	973.00	81.63	11.26
TEXAS	W		26	11.99	45	24.22	29.35	74.43	9.51	10.47	968.53	93.38	12.47
	N		26	13.90	45	24.22	29.35	74.43	9.51	10.47	968.53	93.38	12.47
	I		14	5.17	30	14.39	8.86	86.93	4.76	13.25	968.40	94.76	11.70
	T		2	3.45	6	10.36	76.00	73.17	5.26	15.79	973.68	12.86	12.45
Colorado	W				1	22.22		131.00		17.54	982.46	1.67	10.67
	N												
	I		16	4.80	46	13.80	17.25	86.09	4.73	13.61	969.53	109.00	11.77
	T												
California	W		10	6.85	18	12.33	19.09	82.71	7.15	12.87	962.12	44.79	11.64
	N		10	6.85	18	12.33	19.09	82.71	7.15	12.87	962.12	44.79	11.64
	I		11	7.61	17	11.76	12.73	76.18	10.97	16.49	944.72	34.04	12.05
	T		11	7.61	17	11.76	12.73	76.18	10.97	16.49	944.72	34.04	12.05
Columbia	W												
	N												
	I												
	T												
Hot Springs	W		1		7		72.00	229.57				17.34	
	N				1			417.00				3.10	
	I												
	T		1		8		72.00	253.00				20.50	
Deaths and discharges at large	W												
	N												
	I												
	T												
The Army	W		10	6.48	19	11.56	16.25	75.09	6.34	13.30	972.48	895.78	11.51
	N		14	6.29	21	8.46	21.14	82.7	8.27	12.40	974.80	54.08	11.66
	I		9	20.27	8	18.02	18.00	75.87	23.14	20.57	982.00	15.26	14.32
	T		185	6.69	368	11.30	16.1	75.54	6.60	13.31	979.74	875.11	11.55

TABLE III.—Military posts in each department, alphabetically arranged, with mean strength, admissions for disease and injury; also deaths and discharges, with ratios per thousand of strength for admissions and non-effectiveness, the averages of daily sickness, and the meteorological data for 1894.

DEPARTMENT OF THE EAST.

Name of station.	Mean strength.	Cases.			Admission rate per 1,000 of mean strength.	Average number of sick daily.	Constantly non-effective per 1,000 of mean strength.	Discharges for disability.	Deaths.	Altitude of station.	Temperature.			
		Disease.	Injury.	Total.							Mean.	Maximum.	Minimum.	Total precipitation.
										Feet.	°	°	°	In.
Adams, Fort, R. I.	121	12	7	19	1.621.93	10.03	33.17	2	...	30	...	...	...	...
Allegany Arsenal, Pa.	131	12	4	16	1.331.35	8.83	39.03	...	...	704	54.5	97	—4	24.17
Angusta Arsenal, Ga.	127	13	4	17	1.320.60	9.37	13.31	...	...	600	64.2	97	9	55.54
Baltimore, Md.	131	1	...	1	1.369.92	0.91	12.03	...	...	...	55.9	93	7	38.32
Barrancas, Fort, Fla.	131	158	43	191	1.132.97	9.32	42.58	4	1	30	67.9	101	14	52.99
Boston, Mass.	11	1	1	2	1.181.81	1.33	12.74	...	...	...	50.3	97	—7	38.02
Columbia Arsenal, Tenn.	120	3	1	4	1.386.60	1.33	6.32	...	...	...	...	...	...	...
Columbus Barracks, Ohio.	124	226	97	323	1.442.75	34.83	68.98	3	6	759	53.3	97	—4	29.49
Columbus Fort, N. Y.	128	203	45	248	1.319.16	8.92	38.23	4	3	25	(¹)	(²)	(³)	(⁴)
Dauids Island, N. Y.	123	371	117	488	1.323.68	13.52	38.76	11	2	30	(¹)	(²)	(³)	(⁴)
Ethan Allen Fort, Vt.	128	47	26	73	1.310.44	12.10	46.52	...	...	332	47.6	92	—14	22.96
Frankfort Arsenal, Pa.	123	44	5	49	1.159.24	12.13	30.92	...	1	12	(¹)	(²)	(³)	(⁴)
Hamilton, Fort, N. Y.	123	122	21	143	1.223.22	12.32	13.44	...	...	47	(¹)	(²)	(³)	(⁴)
Jackson Barracks, La.	121	113	12	135	1.132.33	4.43	38.39	...	1	10	69.1	99	21	54.44
Kennebec Arsenal, Me.	15	18	...	18	1.220.00	1.16	10.96	...	...	200	44.8	99	—23	34.06
Key West Barracks, Fla.	119	122	43	165	1.128.29	7.34	61.62	2	1	12	76.7	91	44	42.34
Madison Barracks, N. Y.	136	120	45	214	1.340.40	5.85	15.03	4	3	262	47.6	94	—24	32.21
McHenry Fort, Md.	121	155	32	187	1.032.15	4.93	37.43	4	...	36	(¹)	(²)	(³)	(⁴)
McPherson, Fort, Ga.	316	133	32	165	1.534.98	7.51	21.87	...	4	200	61.6	96	4	40.92
Monroe, Fort, Va.	512	44	109	543	1.090.55	17.35	34.97	4	5	7	60.1	95	12	45.56
Mount Vernon Barracks, Ala.	149	212	37	249	1.671.14	7.26	45.73	4	3	200	67.3	97	17	58.39
Myer, Fort, Va.	231	409	135	544	1.167.33	13.35	32.16	5	2	200	(¹¹)	(¹¹)	(¹¹)	(¹¹)
Newport Barracks, Ky.	51	39	12	51	1.090.00	1.06	12.74	...	1	588	56.1	96	—4	26.59
New York, N. Y.	44	8	1	9	1.244.55	1.34	12.17	...	...	...	53.7	96	1	44.17
Niagara, Fort, N. Y.	217	153	39	192	1.824.79	4.32	19.47	...	...	271	49.7	93	—5	30.79
Ontario, Fort, N. Y.	13	65	12	78	1.471.70	2.36	42.70	4	1	282	47.3	94	—11	36.44
Philadelphia, Pa.	14	5	...	5	1.357.15	1.10	6.25	...	...	...	55.0	97	4	40.34
Plattsberg Barracks, N. Y.	204	129	52	181	1.837.25	4.17	20.45	3	3	166	44.6	96	—23	26.72
Porter, Fort, N. Y.	114	20	15	35	1.833.33	2.05	17.76	1	1	600	48.6	99	—5	34.92
Preble, Fort, Me.	67	70	12	82	1.223.28	2.02	43.63	...	...	1	45.4	97	—15	37.13
St. Francis Barracks, Fla.	145	231	38	269	1.235.17	5.49	37.22	1	...	10	68.6	94	16	50.73
Sandy Hook, N. J.	69	89	20	109	1.579.71	2.06	30.12	3	...	...	(¹)	(²)	(³)	(⁴)
Schuyler, Fort, N. Y.	125	114	41	155	1.240.00	3.69	29.50	...	1	...	...	(²)	(³)	(⁴)
Springfield Armory, Mass.	35	65	9	74	1.114.28	1.46	41.65	...	...	250	50.2	97	—12	35.46
Thomas, Fort, Ky.	400	390	65	455	1.137.50	14.34	36.34	8	4	920	(¹⁶)	(¹⁶)	(¹⁶)	(¹⁶)
Trumbull, Fort, Conn.	65	22	7	29	1.446.15	7.72	11.00	...	1	25	49.7	91	—2	39.29
Wadsworth, Fort, N. Y.	184	154	41	195	1.059.78	7.49	40.73	3	1	100	(³)	(³)	(³)	(⁴)
Warren, Fort, Mass.	125	104	41	145	1.160.00	6.06	48.00	1	...	38	50.2	97	—7	36.02
Washington Barracks, D. C.	316	493	74	567	1.794.30	13.38	42.33	7	1	106	56.4	98	6	30.88
Watertown Arsenal, Mass.	39	43	4	47	1.205.13	1.58	124.75	1	1	100	...	...	...	125.74
Watervliet Arsenal, N. Y.	61	65	9	74	1.213.11	2.78	45.59	2	...	50	49.6	97	—11	35.11
West Point, N. Y.	384	358	119	477	1.242.18	8.21	21.38	3	2	167	...	100	—9	40.26
Willets Point, N. Y.	413	398	76	474	1.147.70	11.71	28.43	2	4	70	52.1	97	1	52.53
Wood, Fort, N. J.	41	18	7	25	1.009.76	1.18	4.28	1	...	...	(³)	(⁷)	(³)	(⁴)
Field.	35	28	4	32	1.914.29	1.39	11.04	...	...	...	...	...	...	...
Total.	7,252	7,003	1,621	8,624	1,189.19	250.28	34.53	97	53	...	...	...	...	...

¹ Observations made at Pittsburg, Pa.
² Observations made at Pensacola, Fla.
³ See New York City.
⁴ See Philadelphia, Pa.
⁵ Observations made at New Orleans, La.
⁶ Observations made at Gardiner, Mass.
⁷ See Baltimore, Md.
⁸ Observations made at Atlanta, Ga.
⁹ Observations made at Hampton, Va.
¹⁰ Observations made at Citronelle, Ala.

¹¹ See Washington, D. C.
¹² Observations made at Cincinnati, Ohio.
¹³ Observations made at Oswego, N. Y.
¹⁴ Observations made at Buffalo, N. Y.
¹⁵ Observations made at Portland, Me.
¹⁶ See Newport, Ky.
¹⁷ Observations made at New London, Conn.
¹⁸ Observations made at Boston, Mass.
¹⁹ Observations made at Waltham, Mass.
²⁰ Observations made at Albany, N. Y.

TABLE III.—Military posts in each department, alphabetically arranged, etc.—Continued.

DEPARTMENT OF THE MISSOURI.

Name of station.	Mean strength.	Cases.			Admission rate per 1,000 of mean strength.	Average number of sick daily.	Constantly non-effective per 1,000 of mean strength.	Discharges for disability.	Deaths.	Altitude of station.	Temperature.				Total precipitation.
		Disease.	Injury.	Total.							Mean.	Maximum.	Minimum.		
Brady, Fort, Mich.	160	127	30	157	928.99	5.33	31.52	2		Feet.	°	°	°	°	in.
Chicago headquarters, Ill.	46	11		11	239.13	.38	8.18			695	40.5	94	26.38	53	
Indianapolis Arsenal, Ind.	25	20	6	26	1,840.00	.94	37.48	1		661	49.6	98	—	9	27.46
Jefferson Barracks, Mo.	327	270	165	435	1,330.27	7.66	23.42	3		693	54.5	99	—	7	31.13
Leavenworth, Fort, Kans.	705	479	173	652	1,208.51	27.54	39.06	11		475	57.6	100	—	11	27.44
Leavenworth Prison, Kans.	135	80	7	87	644.44	4.78	35.42			844					
Mackinac, Fort, Mich.	52	13	6	19	365.38	.43	8.32			730	42.2	93	—	25	32.17
Reno, Fort, Okla.	278	269	64	333	1,197.84	12.10	43.53	9		1,400		108	—	8	17.28
Riley, Fort, Kans.	643	503	283	786	1,232.39	24.45	38.02	10		3,130	53.7	101	—	14	22.33
Rock Island Arsenal, Ill.	94	42	10	52	812.50	1.32	20.59			528	51.5	100	—	21	18.52
Sheridan, Fort, Ill.	729	680	189	869	1,192.04	26.92	36.92	9		4,746	48.5	95	—	13	27.84
Sill, Fort, Okla.	815	314	63	377	1,196.83	14.13	44.83	2		2,120	60.2	108	—	5	24.14
Supply, Fort, Okla.	181	142	57	109	1,185.56	7.25	40.30	2		2,300		107	—	9	
Wayne, Fort, Mich.	233	108	34	142	669.44	5.11	21.94	1		580	49.8	96	—	11	25.74
Field	209	230	60	286	1,368.42	2.63	12.57	1		5					
Total	4,110	3,478	1,353	4,631	1,126.76	14.93	34.29	50	24						

¹ Observations made at Sault Ste. Marie, Mich.² Observations made at St. Louis, Mo.³ Observations made at St. Ignace, Mich.⁴ Observations made at Davenport, Iowa.⁵ Observations made at Detroit, Mich.

DEPARTMENT OF DAKOTA.

Assiniboine, Fort, Mont.	445	274	94	368	826.97	11.72	26.15	5		12,800	42.8	96	—	26	14.49
Bismarck, Fort, N. Dak.	287	168	74	242	843.20	7.75	26.90	3		2,189	40.4	100	—	36	17.76
Ouster, Fort, Mont.	343	56	40	96	279.88	3.27	9.54			2,123		98	—	23	15.54
Keogh, Fort, Mont.	435	448	103	551	1,296.67	15.71	36.13	4		2,365	43.7	103	—	35	11.00
Meade, Fort, S. Dak.	399	422	194	616	1,543.86	19.87	49.80	4		2,624	47.8	98	—	24	16.78
Mission, Fort, Mont.	228	95	31	126	552.63	4.16	18.23	3		3,390	42.0	98	—	21	14.94
Pembina, Fort, N. Dak.	60	30	6	36	600.00	.92	15.25			900	37.7	100	—	38	20.29
St. Paul, headquarters, Minn.	43	7		7	162.79	.35	8.03			46.1	100	—	—	25	25.80
Snelling, Fort, Minn.	492	327	96	423	859.70	18.93	38.47	23		3,840	(¹)	(¹)	(¹)	(¹)	
Sully, Fort, S. Dak.	146	71	25	96	657.53	3.00	20.57	3		1,167		111	—		
Yates, Fort, N. Dak.	262	240	96	335	1,278.03	11.40	43.49	5		2,167	43.2	104	—	31	12.20
Yellowstone, Fort, Wyo.	102	43	11	54	529.41	1.01	9.86			1,827		90	—	25	18.30
Field	209	174	80	254	944.24	3.06	11.37	1		3					
Total	3,511	2,355	849	3,204	912.56	10.04	28.79	50	20						

¹ Observations made at Havre, Mont.² Observations made at Williston, N. Dak.³ Observations made at St. Vincent, Minn.⁴ See St. Paul.

DEPARTMENT OF THE PLATTE.

D. A. Russell, Fort, Wyo.	431	319	75	394	958.64	12.79	31.12	3		3,620	45.6	94	—	17	12.98
McKinney, Fort, Wyo.	247	229	96	325	1,315.79	11.35	45.94	1		1,420		93	—		
Niobrara, Fort, Nebr.	387	351	120	471	1,217.05	12.52	32.35	1		3,600	44.5	103	—	10	14
Omaha, Fort, Nebr.	498	450	153	603	1,210.84	22.68	45.55	9		960	(¹)	(¹)	(¹)	(¹)	
Omaha, headquarters, Nebr.	27	1	2	3	111.11	.41	15.42			900	52.1	106	—	32	17.82
Pilot Butte, Camp, Wyo.	51	27	5	32	627.45	1.54	30.25			1,620		96	—		
Robinson, Fort, Nebr.	453	367	150	507	1,119.20	11.91	26.30	1		3,764	44.2	99	—	20	14.48
Sidney, Fort, Nebr.	94	199	15	124	1,313.15	3.69	39.29			2,432			—		
Washakie, Fort, Wyo.	125	91	36	127	1,016.00	3.50	27.97	1		5,462	43.4	93	—	26	8.53
Field	75	29	12	41	646.67	.64	8.58			1					
Total	2,968	1,963	664	2,627	1,109.38	8.03	34.22	16	22						

¹ Observations made at Cheyenne, Wyo.² Observations made at Valentine, Nebr.³ See Omaha, Nebr.

TABLE III.—Military posts in each department, alphabetically arranged, etc.—Continued.

DEPARTMENT OF TEXAS.

Name of station	Mean strength	Cases.			Admission rate per 1,000 of mean strength	Average number of sick daily.	Constantly non-effective per 1,000 of mean strength	Discharges for disability.	Deaths.	Altitude of station.	Temperature.			Total precipitation
		Discharge	Injury.	Total							Mean.	Maximum	Minimum	
Bliss, Fort, Tex.....	293	333	78	411	402.73	15.45	52.71	18	5,700	63.4	102	14	4.24	
Brown Fort, Tex.....	120	147	39	186	1,550.00	7.14	59.54	2	2,477	73.9	102	27	18.33	
Clark Fort, Tex.....	357	487	91	578	1,619.04	18.70	52.39	6	31,133	70.7	108	20	30.78	
Eagle Pass Camp, Tex.....	61	113	22	135	2,213.11	3.72	80.86	1	800	71.2	116	18	30.03	
Hancock Fort, Tex.....	59	92	23	115	1,349.15	3.55	60.18	4	12,300	59.5	109	1	7.18	
McIntosh, Fort, Tex.....	170	185	45	210	1,235.29	8.51	50.04	4	4,805	74.1	106	15	17.57	
Ringgold Fort, Tex.....	186	176	38	214	1,280.16	9.05	54.60	1	147	74.0	105	22	21.80	
San Houston, Fort, Tex.....	547	660	145	805	1,471.66	26.15	47.81	14	779	(?)	(?)	(?)	(?)	
San Antonio, headquarters, Tex.....	29													
Field.....	66	71	8	79	1,410.71	1.12	19.91		781	70.1	106	16	21.75	
Total.....	1,858	2,244	489	2,733	1,470.94	93.38	50.27	45	26					

¹ Observations made at El Paso, Tex.² See San Antonio, Tex.

DEPARTMENT OF THE COLORADO.

Apache Fort, Ariz.....	190	136	58	194	1,021.05	6.49	34.16	6	5,200	53.9	96	12	17.47
Bayard, Fort, N. Mex.....	328	136	47	183	557.93	6.97	21.25	2	2,750	55.5	95	8	8.87
Bowie, Fort, Ariz.....	83	52	42	94	1,019.75	2.94	31.56	1	14,781		98		
Denver, headquarters, Colo.....	25	12		12	480.00	55	22.14			50.6	96	8	15.09
Doan's Fort, Utah.....	462	462	116	578	1,251.08	18.40	36.23	4	5,420	50.8	96	1	15.27
Dr. Chas. Fort, Utah.....	119	65	41	100	890.76	3.64	30.80	1	5,000	46.5	98	24	4.44
Giant Fort, Ariz.....	263	218	110	348	1,187.71	9.35	31.91	4	4,918	60.7	101	10	12.53
Humboldt Fort, Ariz.....	391	177	48	225	747.51	8.29	27.55	4	15,100	59.6	98	14	13.95
Logan, Fort, Colo.....	415	381	79	460	1,108.43	12.30	29.61	3	3,450	50.6	96	8	15.09
Mary Fort, N. Mex.....	91	100	12	112	1,230.77	3.79	41.60	2	27,027	48.9	86		13.31
San Carlos, Ariz.....	144	78	15	93	645.93	6.63	41.87	3	2,456	63.2	110	15	10.15
Stanton Fort, N. Mex.....	165	63	23	86	819.05	1.42	13.52	1	6,152	52.7	94	1	12.14
Whipple Barracks, Ariz.....	246	163	38	201	817.07	9.03	36.72	8	25,318	52.2	95		9.11.00
Wingate, Fort, N. Mex.....	134	447	144	591	1,669.49	18.53	52.35	11	7,000	50.9	96	8	14.48
Field.....	168	72	25	97	577.38	1.37	7.53	1					
Total.....	5,314	2,582	798	3,380	1,013.80	109.00	32.70	46	16				

¹ Observations made at Denver, Colo.

DEPARTMENT OF CALIFORNIA

Aleatraz Island, Cal.....	114	66	13	79	682.98	3.67	26.94	1	135	(1)	(1)	(1)	(1)
Angel Island, Cal.....	283	129	38	167	590.10	6.90	24.40	3	150	(1)	(1)	(1)	(1)
Bernicia Barracks, Cal.....	209	146	44	192	918.66	5.12	24.49	1	160	(1)	(1)	(1)	(1)
Mason Fort, Cal.....	67	19	6	25	373.13	1.00	14.02	1	80	(1)	(1)	(1)	(1)
Presidio of San Francisco, Cal.....	478	474	151	625	1,307.53	20.72	43.35	9	72	(1)	(1)	(1)	(1)
San Diego Barracks, Cal.....	71	53	11	66	929.58	4.25	50.81	3	1	58.4	90	32	4.35
San Francisco, headquarters, Cal.....	47	4	1	5	135.14	60	17.77			55.1	94	36	24.00
Field.....	291	174	06	240	1,194.03	3.07	15.29	4					
Total.....	1,460	1,069	350	1,390	958.22	44.79	30.68	18	10				

¹ See San Francisco, Cal.

TABLE III.—Military posts in each department, alphabetically arranged, etc.—Continued.

DEPARTMENT OF THE COLUMBIA.

Name of station.	Mean strength.	Cases.			Admission rate per 1,000 of mean strength.	Average number of sick daily.	Constantly non-effective per 1,000 of mean strength.	Discharges for disability.	Deaths.	Altitude of station.	Temperature.			Total precipitation.
		Disease.	Injury.	Total.							Mean.	Maximum.	Minimum.	
Boise Barracks, Idaho.	117	54	31	85	726.50	2.03	17.38	1	1	Feet 5,765	50.6	102	114.12	In.
Canbr. Fort, Wash.	113	45	17	62	548.67	1.50	14.09	1	1	8	49.2	89	25.70	11
Sherman, Fort, Idaho.	303	144	61	205	676.57	7.46	24.02	5	3	2,140		99	15.33	75
Spokane Fort, Wash.	136	81	29	110	308.82	3.80	27.92	1	4	1,400	47.4	104	5.10	90
Townsend Fort, Wash.	64	36	12	48	750.00	1.32	20.55	1	1	135	48.1	86	11.27	62
Vancouver Barracks, Wash.	437	156	50	206	471.40	7.09	18.28	7	2	50	51.9	94	18.39	32
Walla Walla, Fort, Wash.	197	207	72	279	1,416.24	9.46	47.95	2	1	865	53.0	108	6.20	49
Field	78	18	18	36	461.54	.41	5.27							
Total	1,445	741	290	1,031	713.49	34.04	23.50	17	11					

Observations made at Portland, Oreg.

TABLE IV.—General view of the results of disease and injury at each of the military stations, arranged in the order of their mean strength.

GROUP 1—Eighteen stations, garrisoned by 400 to 700 men each, average, 500.

Name of station	Mean strength.	Admission rate per 1,000 of mean strength	Constantly non-effective.		Discharges		Deaths		
			Daily average in hospital.	Ratio per 1,000 of mean strength	Number.	Ratio per 1,000 of mean strength	Number.	Ratio per 1,000 of mean strength.	
Fort Sheridan, Ill.	729	1 192.04	20.43	28.03	36.92	9	12.35	4	5.40
Fort Leavenworth, Kans.	705	1 208.51	10.56	23.48	39.06	11	15.60	3	11.35
Fort Riley, Kans.	643	1 222.39	12.11	18.87	38.02	10	15.55	3	4.67
Fort Sam Houston, Tex.	547	1 471.66	21.63	39.54	47.81	14	25.60	7	12.80
Columbus Barracks, Ohio.	524	1 442.75	33.44	63.64	66.88	3	5.72	6	11.45
Fort Monroe, Va.	512	1 060.55	11.90	23.25	34.67	4	7.81	5	9.77
Fort Omaha, Nebr.	498	1 210.84	13.32	26.75	45.55	0	18.07	8	16.06
Fort Snelling, Minn.	492	859.70	14.70	29.87	38.47	23	46.75	3	6.10
Presidio of San Francisco, Cal.	478	1 307.53	16.48	34.48	43.35	9	18.83	3	6.28
Fort Douglas, Utah.	462	1 251.08	14.23	30.80	39.83	4	8.66	5	10.62
Fort Robinson, Nebr.	453	1 119.20	8.68	19.16	26.30	1	2.21	3	6.62
Fort Assiniboine, Mont.	445	828.97	8.93	20.07	26.15	5	11.24	1	2.25
Vancouver Barracks, Wash.	437	471.40	5.75	13.15	18.28	7	16.02	2	4.58
Fort Keogh, Mont.	435	1 286.67	7.09	16.20	38.13	4	9.20		4.60
Fort Logan, Colo.	415	1 108.43	0.58	23.05	28.63	3	7.23	9	7.23
Willetts Point, N. Y.	413	1 147.70	8.19	19.84	28.43	2	4.84	4	9.69
Fort D. A. Russell, Wyo.	411	958.64	10.30	25.07	31.12	3	7.30	3	7.30
Fort Thomas, Ky.	400	1 137.50	12.09	30.23	36.34	8	20.00	4	10.00
Mean.	500		13.63						
Summary.	8,990	1 139.57	245.29	27.36	37.45	129	14.34	74	8.22

TABLE IV. General view of the results of disease and injury at each of the military stations, arranged in the order of their mean strength—Continued.

GROUP 2 Fifteen stations, garrisoned by 300 to 400 men each: average, 348.

Name of station.	Mean strength.	Admission rate per 1,000 of mean strength.	Constantly non effective.		Discharges.		Deaths.		
			Daily average in hospital.	Ratio per 1,000 of mean strength.	Number.	Ratio per 1,000 of mean strength.	Number.	Ratio per 1,000 of mean strength.	
				Cases in hospital.					All cases.
Fort Meade, S. Dak.	300	1,543.86	13.87	34.77	49.08	4	10.02	3	5.01
Madison Barracks, N. Y.	396	510.40	3.76	9.49	15.03	4	10.16	3	7.56
Fort Sloburn, Nebr.	387	1,217.05	0.96	25.74	32.35	1	2.58	3	7.73
West Point, N. Y.	381	1,242.18	4.20	10.94	21.28	3	7.81	3	5.21
Devils Island, N. Y.	308	1,326.08	9.27	25.20	36.76	11	29.80	3	5.43
Fort Clark, Tex.	357	1,619.04	13.34	37.37	52.39	6	16.81	3	8.40
Fort Wingate, N. Mex.	354	1,060.49	0.58	27.07	52.35	11	31.07		
Fort McPherson, Ga.	346	534.08	6.47	18.71	21.87			4	11.56
Fort Custer, Mont.	343	279.88	2.61	7.62	9.54			3	5.83
Fort Bayard, N. Mex.	328	557.93	5.64	17.19	21.25	2	6.10	2	6.10
Jefferson Barracks, Mo.	327	1,330.27	6.90	19.43	23.42	3	9.18		
Washington Barracks, D. C.	316	1,794.30	10.90	34.51	42.33	7	22.15	1	3.16
Fort Sill, Okla.	315	1,106.83	7.12	22.61	44.83	2	6.35	2	6.35
Fort Sherman, Idaho	303	676.57	4.95	16.35	24.02	5	16.50	3	9.90
Fort Huachuca, Ariz.	301	747.51	5.83	19.36	27.55	4	13.29	1	3.32
Mean	348		7.63						
Summary	5,224	1,092.65	114.42	21.91	31.78	63	12.06	30	5.74

GROUP 3 Sixteen stations, garrisoned by 200 to 300 men each; average, 255.

Fort Grant, Ariz.	293	1,187.71	6.93	23.67	31.91	4	13.65		
Fort Bliss, Tex.	293	1,402.73	8.82	30.12	52.71	18	61.43	5	17.06
Fort Buford, N. Dak.	287	813.20	6.21	21.65	26.99	3	10.45	2	6.97
Angel Island, Cal.	283	500.10	6.07	21.46	24.40	3	10.60	1	3.53
Fort Reno, Okla.	278	1,197.84	10.90	39.38	43.53	9	32.37		
Fort Adams, R. I.	277	1,021.66	6.10	22.36	36.17	2	7.22		
Fort Hamilton, N. Y.	268	1,205.22	6.13	22.87	26.44	2	7.46		
Fort Yates, N. Dak.	262	1,278.63	5.32	20.32	43.49	5	19.09	2	7.63
Fort Meyer, Va.	251	2,167.33	6.71	26.73	53.18	5	19.92	2	7.97
Fort McKinney, Wyo.	247	1,315.79	6.94	28.22	45.94	1	4.05	1	4.05
Whipple Barracks, Ariz.	246	817.07	7.13	28.97	36.72	3	12.20	2	8.13
Fort Wayne, Mich.	233	609.44	3.68	15.79	21.04	1	4.29	1	4.29
Fort Missoula, Mont.	228	552.63	3.61	15.84	18.23	3	13.16		
Fort Niagara, N. Y.	217	884.79	3.76	17.33	19.47				
Benton Barracks, Cal.	209	918.66	3.35	16.05	24.49	1	4.78		
Plattsburg Barracks, N. Y.	204	887.25	2.90	14.10	20.45	3	14.71	3	14.71
Mean Summary	255		5.92						
	4,076	1,066.00	94.73	23.25	33.51	63	15.46	19	4.66

GROUP 4 Twenty-nine stations, garrisoned by 100 to 200 men each; average, 142.

Fort Walla Walla, Wash.	197	1,416.24	5.94	30.14	47.95	2	10.15		
Fort Apache, Ariz.	190	1,021.05	3.97	20.90	34.15	6	31.58		
Fort Columbus, N. Y.	188	1,319.16	4.60	24.48	36.78	4	21.28	3	15.96
Fort Wadsworth, N. Y.	184	1,059.78	4.32	23.50	40.73	3	16.30	1	5.43
Fort McHenry, Md.	181	1,033.15	3.96	21.89	27.43	4	22.10		
Fort Supply, Okla.	180	1,105.56	5.36	29.75	40.30	2	11.11		
Fort McIntosh, Tex.	170	1,235.29	7.29	42.90	50.04			4	22.53
Fort Brady, Mich.	160	928.90	4.57	27.04	31.52	2	11.83		
Fort Ringgold, Tex.	166	1,289.16	7.01	42.22	54.60			2	12.65
Mount Vernon Barracks, Ala.	149	1,671.14	3.86	25.91	48.73	4	26.85	3	20.14
Fort Sully, S. Dak.	146	657.53	2.20	15.09	20.57	2	13.70	1	6.85
St. Francis Barracks, Fla.	145	1,855.17	4.00	27.61	37.88	1	6.90		
San Carlos, Ariz.	144	645.83	3.85	26.73	41.87	3	20.83		
Fort Spokane, Wash.	136	808.82	2.56	18.80	27.92				
Fort Leavenworth Military Prison, Kans.	135	644.44	4.50	33.32	35.42				
Fort Barrancas, Fla.	131	1,152.67	4.83	36.85	42.58	4	30.53	1	7.66
Fort Washakie, Wyo.	125	1,016.00	2.12	16.92	27.97	1	8.00		
Fort Warren, Mass.	125	1,160.00	4.68	37.48	48.00	1	8.00		
Fort Schuyler, N. Y.	125	1,240.00	2.58	20.65	29.50	1	8.00	1	8.00

TABLE IV.—General view of the results of disease and injury at each of the military stations, arranged in the order of their mean strength—Continued.

GROUP 4—Continued.

Name of station.	Mean strength.	Admission rate per 1,000 of mean strength.	Constantly non-effective.			Discharges.		Deaths.	
			Daily average in hospital.	Ratio per 1,000 of mean strength.		Number.	Ratio per 1,000 of mean strength.	Number.	Ratio per 1,000 of mean strength.
				Cases in hospital.	All cases.				
Jackson Barracks, La	121	1,132.23	4.32	35.71	36.70	7	57.86	1	8.26
Fort Brown, Tex	120	1,550.00	5.54	46.12	50.54	2	16.67	2	16.67
Fort Du Chesne, Utah	119	890.76	2.47	20.75	30.60	1	8.40		
Key West Barracks, Fla.	119	2,226.89	5.89	49.45	61.68	2	16.81	1	8.40
Boise Barracks, Idaho	117	726.50	1.36	11.61	17.38	1	8.55		
Fort Porter, N. Y.	114	833.33	1.23	10.79	17.76	1	8.77	1	8.77
Alcatraz Island, Cal.	114	692.98	2.28	20.00	26.94	1	8.77		
Fort Canby, Wash.	113	548.67	1.00	8.87	14.09	1	8.85	1	8.85
Fort Stanton, N. Mex.	105	819.05	.74	7.04	13.52	1	9.52		
Fort Yellowstone, Wyo.	102	529.41	.87	8.49	9.86			1	9.80
Mean	142		3.72						
Summary	4,130	1,094.43	107.90	26.14	35.91	57	13.80	23	5.57

GROUP 5.—Thirty-eight stations, garrisoned by 1 to 100 men each; average, 48.

Fort Sidney, Nebr.	94	1,319.15	2.87	30.49	39.29			2	21.28
Fort Bowie, Ariz.	93	1,010.75	1.87	20.09	31.58	1	10.75	1	10.75
Fort Marcy, N. Mex.	91	1,230.77	2.26	24.78	41.66	2	21.98	2	21.98
San Diego Barracks, Cal.	71	929.58	3.57	50.28	59.21	3	42.25	1	14.08
Sandy Hook Proving Ground, N. J.	69	1,579.71	.01	.12	30.22	3	43.48		
Fort Preble, Me.	67	1,223.88	2.39	35.74	43.63				
Fort Mason, Cal.	67	373.13	.45	6.67	14.93	1	14.93	1	14.93
Fort Trumbull, Conn.	65	446.15	.65	9.99	11.00			1	15.38
Fort Townsend, Wash.	64	750.00	.90	14.08	20.55	1	15.62	4	62.50
Rock Island Arsenal, Ill.	64	812.50	.50	7.83	20.59			1	15.62
Watervliet Arsenal, N. Y.	61	1,213.11	1.15	18.82	45.59	2	32.79		
Camp Eagle Pass, Tex.	61	2,213.11	1.90	31.17	60.95	1	16.39		
Fort Pembina, N. Dak.	60	600.00	.78	13.06	15.25				
Fort Hancock, Tex.	59	1,949.15	2.37	40.22	60.18	4	67.80	1	16.95
Fort Ethan Allen, Vt.	58	1,310.34	2.16	37.27	46.58				
Fort Ontario, N. Y.	53	1,471.70	1.56	29.47	42.70	4	75.47	1	18.87
Fort Mackinac, Mich.	52	365.38	.23	4.43	8.32				
Camp Pilot Butte, Wyo.	51	627.45	1.10	21.54	30.25			1	19.61
Newport Barracks, Ky.	51	1,000.00	.48	9.45	20.74			1	19.61
Headquarters Department of the Missouri, Chicago, Ill.	46	239.13			8.16				
New York, N. Y.	44	204.55			12.27				
Headquarters Department of Dakota, St. Paul, Minn.	43	162.79	.19	4.46	8.03			1	23.26
Frankford Arsenal, Pa.	43	1,139.54	.27	6.31	50.02			1	23.26
Fort Wood, New York Harbor.	41	609.76	.06	1.54	4.28	1	24.39		
Watertown Arsenal, Mass.	39	1,205.13	.23	5.90	14.75	1	25.64	1	25.64
Headquarters Department of California, San Francisco, Cal.	37	135.14			17.77				
Springfield Armory, Mass.	35	2,114.28	.20	5.79	41.65				
Allegheny Arsenal, Pa.	32	1,031.25	.14	4.28	29.03				
Headquarters Department of Texas, San Antonio, Tex.	29							2	68.97
Augusta Arsenal, Ga.	28	500.00	.29	10.47	13.31				
Headquarters Department of the Platte, Omaha, Nebr.	27	111.11			15.32				
Headquarters Department of the Colorado, Denver, Colo.	25	480.00			22.14				
Indianapolis Arsenal, Ind.	25	1,040.00			37.48	1	40.00		
Columbia Arsenal, Tenn.	20	1,900.00			67.68				
Kennebec Arsenal, Me.	15	1,200.00	.01	.91	10.96				
Philadelphia, Pa.	14	357.15			6.85				
Baltimore, Md.	13	76.92			.63				
Boston, Mass.	11	181.81			2.74				
Mean	48		.75						
Summary	1,818	954.90	28.60	15.73	29.77	25	13.75	22	12.10

TABLE IV.—General view of the results of disease and injury at each of the military stations, arranged in the order of their mean strength—Continued.

GROUP 6.—Field.

Name of station.	Mean strength.	Admission rate per 1,000 of mean strength.	Constantly non-effective.		Number.	Discharges.		Deaths.	
			Daily average in hospital.	Ratio per 1,000 of mean strength.		Ratio per 1,000 of mean strength.	Number.	Ratio per 1,000 of mean strength.	Number.
				Cases in hospital. All cases.					
Department of Dakota	200	944.24		11.37	1	3.72	3	11.15	
Department of the Missouri	209	1,368.42		12.57			5	21.92	
Department of California	201	1,194.03		15.20			4	19.90	
Department of the Colorado	168	577.38		7.53	1	5.95			
Department of the Columbia	78	461.34		5.27			1	12.82	
Department of the Platte	75	346.67		8.58			1	13.33	
Department of Texas	36	1,410.71		10.01					
Department of the East	3	914.29		11.04					
Summary	1,091	976.17		11.54	2	1.83	14	12.03	
Army and Navy General Hospital, Hot Springs, Ark	36		20.50		8		1		
At large					21		2		
Total for the Army	25,376	1,089.73	611.44	24.10	368	13.30	185	6.00	

TABLE V.—Twenty posts having the highest admission rates for the year 1894; also their admission rates for the years 1889 to 1893, inclusive.

Name of station	Mean strength.	Rates per 1,000 of mean strength.				Admission rates per 1,000 of mean strength.				
		Admissions.	Discharges.	Deaths.	Constantly non-effective.	1893.	1892.	1891.	1890.	1889.
Key West Barracks, Fla	119	226.89	16.81	8.40	61.68	1,360.66				
Camp Eagle Pass, Tex	61	213.11	16.39		60.95	2,196.43	2,113.21	1,788.46	2,053.57	1,145.45
Fort Myer, Va	251	167.33	19.92	7.97	53.18	2,034.75	1,618.64	1,063.58	1,350.36	1,196.65
Fort Hancock, Tex	59	199.15	67.80	16.95	60.18	1,792.45	1,460.00	1,530.61	1,183.67	1,686.65
St. Francis Barracks, Fla	145	185.17	6.90		37.88	1,767.44	1,067.48	3,121.50	2,015.38	1,508.97
Washington Barracks, D C	316	1,794.30	22.15	3.16	42.33	2,027.87	1,981.93	1,774.19	1,329.41	1,138.44
Fort Wingate, N Mex	354	1,669.49	31.07		52.35	1,564.10	1,396.65	1,776.47	1,788.30	1,636.46
Fort Clark, Tex	357	1,619.04	16.81	8.40	52.39	2,165.00	1,538.94	1,256.72	1,669.44	1,355.36
Sandy Hook Proving Ground, N J	6	1,579.71	43.48		30.22	2,362.07	1,884.62	1,590.91	1,812.50	
Fort Brown, Tex	159	1,560.05	16.67	16.67	59.54	1,879.52	576.27	790.32	1,881.48	2,719.34
Fort Meade, S Dak	290	1,543.86	10.02	5.01	44.80	1,540.00	1,556.90	1,861.11	853.90	1,312.14
Fort Sam Houston, Tex	517	1,471.66	25.60	12.80	47.81	1,359.28	1,683.84	1,985.97	2,430.69	1,262.61
Columbus Barracks, Ohio	524	1,442.75	5.72	11.45	66.66	2,578.27	2,059.23	2,209.89	1,876.49	2,318.86
Fort Walla Walla, Wash	197	1,416.24	10.15		47.95	1,502.65	1,150.86	1,196.72	1,311.32	1,104.10
Fort Bliss, Tex	293	1,402.77	61.43	17.06	52.71	2,240.00	822.43	1,127.37	975.61	1,067.89
Jefferson Barracks, Mo	327	1,339.27	9.18		23.42	2,004.13	875.49	1,068.49	1,000.00	908.86
Dauids Island, N Y	368	1,326.08	29.89	5.43	36.76	2,283.76	2,115.32	1,884.82	1,642.86	1,289.67
Fort Columbus, N Y	188	1,319.16	21.28	15.96	56.78	1,068.08	815.57	853.66	1,073.17	1,629.41
Presidio of San Francisco, Cal	478	1,307.53	18.83	6.28	43.35	1,189.80	1,034.41	1,424.11	1,413.19	1,578.41
Fort Ringgold, Tex	166	1,289.16		12.05	54.60	1,839.60	1,716.42	1,366.07	865.55	562.89
The Army	25,376	1,089.73	13.30	6.60	34.49	1,289.04	1,270.42	1,364.78	1,384.25	1,315.62

TABLE VI.—Twenty posts having the lowest admission rates for the year 1894; also their admission rates for the years 1889 to 1893, inclusive.

Name of station.	Mean strength.	Ratios per 1,000 of mean strength.				Admission rates per 1,000 of mean strength.				
		Admissions.	Discharges.	Deaths.	Constantly non-effective.	1893.	1892.	1891.	1890.	1889.
Fort Custer, Mont.....	343	279.88	.....	5.83	0.54	333.33	1,534.18	585.56	1,380.06	1,260.86
Fort Mason, Cal.....	67	373.13	14.93	14.93	14.93	741.84	649.66	838.71	1,031.25	1,000.00
Fort Trumbull, Conn.....	65	448.15	.....	15.38	11.00	593.75	1,048.39	769.23	1,115.38	1,383.33
Vancouver Barracks, Wash.....	437	471.40	10.02	4.58	18.28	518.18	727.27	841.49	1,211.90	1,370.70
Fort Yellowstone, Wyo.....	102	529.41	.....	9.80	0.86	529.00	1,105.26	1,033.90	1,281.54	1,665.73
Fort McPherson, Ga.....	346	534.66	.....	11.56	21.87	391.41	1,634.09	2,304.98	2,489.36	3,416.87
Madison Barracks, N. Y.....	386	540.40	10.10	7.58	15.03	609.00	1,108.10	1,528.48	1,395.16	1,396.83
Fort Canby, Wash.....	113	548.67	8.85	8.85	14.09	604.11	1,292.45	1,730.00	1,726.98	1,907.14
Fort Missoula, Mont.....	228	552.63	13.16	.....	18.23	773.87	603.17	943.87	1,285.71	807.65
Fort Bayard, N. Mex.....	228	557.93	6.10	6.10	21.25	651.19	1,348.09	1,276.78	1,482.88	1,406.45
Angel Island, Cal.....	283	580.10	10.00	9.53	24.40	826.09	1,460.14	1,310.84	920.21	562.09
Fort Pembina, N. Dak.....	60	600.00	.....	.....	15.25	898.31	435.90	383.94	800.00	1,612.60
Fort Wayne, Mich.....	233	606.44	4.29	4.29	21.04	1,162.60	1,326.18	1,100.87	1,341.23	1,235.96
Fort Leavenworth Military Prison, Kans.....	135	644.44	.....	.....	35.42	779.66	843.47	816.51	939.13	1,093.22
San Carlos, Ariz.....	144	645.83	20.83	.....	41.87	897.14	1,305.27	1,312.22	1,568.00	1,100.50
Fort Sherman, Idaho.....	303	676.57	16.50	9.90	24.62	781.78	637.93	879.00	1,838.24	1,306.94
Alcatraz Island, Cal.....	114	692.96	8.77	.....	26.94	694.01	1,025.64	1,007.35	1,076.09	694.74
Boise Barracks, Idaho.....	117	726.50	8.85	.....	17.38	798.17	693.88	927.93	1,152.38	1,485.05
Fort Huachuca, Ariz.....	301	747.61	13.29	3.32	27.55	1,308.22	890.17	601.94	701.82	927.42
Fort Spokane, Wash.....	136	808.82	.....	.....	27.92	659.57	518.52	696.77	1,294.00	1,447.49
The Army.....	25,376	1,089.73	13.80	8.69	34.49	1,289.04	1,270.42	1,364.78	1,384.25	1,315.92

TABLE VII.—Twenty posts having the highest noneffective rates for the year 1894; also their noneffective rates for the years 1889 to 1893, inclusive.

Name of station.	Mean strength.	Constantly noneffective per 1,000 of mean strength.	Average sick daily.	Average of days that each case was treated.	Constantly noneffective per 1,000 of mean strength.				
					1893.	1892.	1891.	1890.	1889.
Columbus Barracks, Ohio.....	624	66.66	34.93	18.88	92.16	71.98	77.13	77.55	92.74
Key West Barracks, Fla.....	119	61.83	7.34	10.11	42.62	.....	.....	.....	.....
Camp Eagle Pass, Tex.....	61	60.95	3.72	10.05	68.74	76.30	49.21	59.59	60.17
Fort Hancock, Tex.....	59	60.18	3.55	11.27	60.28	44.65	40.65	44.95	59.68
San Diego Barracks, Cal.....	71	59.91	4.25	23.48	49.73	78.86	90.15	122.48	77.07
Fort Brown, Tex.....	120	50.84	7.14	14.02	60.90	36.01	38.18	65.23	114.44
Fort Ringgold, Tex.....	186	54.60	9.05	15.46	76.51	70.14	52.05	26.61	28.34
Fort Myer, Va.....	251	53.18	19.35	8.96	62.57	49.55	35.98	37.20	33.47
Fort Bliss, Tex.....	293	52.71	15.45	13.72	46.80	28.25	29.44	22.47	23.78
Fort Clark, Tex.....	357	52.39	18.70	11.61	79.79	69.77	39.61	66.25	60.05
Fort Wingate, N. Mex.....	354	52.35	18.53	11.45	48.68	36.12	42.08	60.82	33.03
Fort McIntosh, Tex.....	170	50.04	8.51	14.87	65.62	68.91	54.97	25.31	53.75
Fort Meade, S. Dak.....	399	49.80	19.87	11.77	51.76	44.91	47.94	35.34	35.73
Fort Warren Mass.....	125	48.00	6.00	15.10	42.16	22.14	31.67	34.63	44.01
Fort Walla Walla, Wash.....	197	47.95	9.45	12.36	57.29	37.54	52.32	47.71	42.78
Fort Sam Houston, Tex.....	547	47.81	26.15	11.60	45.93	58.93	56.59	63.25	50.64
Watervliet Arsenal, N. Y.....	61	45.59	2.78	13.72	38.62	60.06	48.15	24.57	24.14
Fort Omaha, Nebr.....	498	45.55	22.68	13.73	28.91	33.49	40.74	31.83	50.19
Fort Sill, Okla.....	315	44.83	14.13	13.67	50.45	37.26	45.67	47.41	44.93
Fort Prohle, Mo.....	67	43.63	2.92	13.01	28.10	49.94	19.52	31.91	25.78
The Army.....	25,376	34.49	875.11	11.56	40.15	39.60	42.91	42.71	44.12

TABLE VIII.—Twenty posts having the lowest noneffective rates for the year 1894; also their noneffective rates for the years 1889 to 1893, inclusive.

Name of station.	Mean strength.	Constantly nonef- fective per 1,000 of mean strength.	Average sickly daily.	Average of days that each case was treated.	Constantly noneffective per 1,000 of mean strength.				
					1893.	1892.	1891.	1890.	1889.
Fort Chester, Mont.	343	9.54	3.27	12.44	13.77	51.14	80.43	57.91	49.72
Fort Yellowstone, Wyo.	102	9.86	1.01	6.80	20.77	21.62	35.20	39.41	62.58
Fort Trumbull, Conn.	65	11.00	.72	9.00	18.62	36.93	22.16	34.19	34.61
Fort Stanton, N. Mex.	105	13.52	1.12	6.02	18.56	42.28	33.63	67.63	29.13
Fort Canby, Wash.	113	14.00	1.50	9.37	22.83	54.85	47.15	35.22	21.65
Fort Mason, Cal.	67	14.93	1.00	14.80	46.40	21.72	39.27	42.51	44.25
Madison Barracks, N. Y.	380	15.03	5.85	10.15	21.43	34.40	32.24	30.50	42.93
Fort Pembina, N. Dak.	60	15.25	.92	8.28	17.41	13.03	5.40	15.38	31.37
Bolsu Barracks, Idaho	117	17.30	2.03	8.73	10.97	22.04	34.48	33.01	28.75
Fort Porter, N. Y.	114	17.70	2.02	7.78	40.22	35.81	20.18	33.29	30.61
Fort Missoula, Mont.	228	18.23	4.10	12.04	14.16	20.64	20.80	28.83	20.69
Vancouver Barracks, Wash.	437	18.28	7.00	14.10	15.06	28.10	31.51	39.02	45.84
Fort Niagara, N. Y.	217	19.47	4.22	8.03	17.38	28.57	17.72	28.74	34.47
Plattsburg Barracks, N. Y.	204	20.45	4.17	8.41	28.20	25.02	37.63	34.02	40.64
Rock Island Arsenal, Ill.	64	20.59	1.32	0.25	28.20	21.48	15.60	30.37	40.77
Fort Bayard, N. Mex.	228	21.25	6.97	13.90	39.89	50.23	50.56	61.40	47.82
West Point, N. Y.	384	21.38	8.21	6.28	26.00	25.60	28.46	30.77	25.01
Fort McPherson, Ga.	346	21.87	7.57	14.83	54.17	58.04	61.12	61.16	72.00
Fort Wayne, Mich.	233	21.94	5.11	13.14	37.89	50.78	44.52	37.84	42.08
Jefferson Barracks, Mo.	327	23.42	7.68	6.43	50.50	32.34	34.62	39.63	48.05
The Army	25,376	34.40	875.11	11.55	40.15	30.60	42.01	42.71	44.12

TABLE IX.—Twenty posts having the highest admission rates for disease, excluding venereal disease, rickets, and alcoholism; also their ratios for deaths, discharges and constant noneffectiveness, and the corresponding average rates for the Army, year 1894.

Name of station.	Mean strength.	Ratios per 1,000 of mean strength.			
		Admis- sions.	Dis- charges.	Deaths.	Con- stantly non- effective.
Key West Barracks, Fla.	119	1,756.31	18.81	8.40	46.28
Camp Eagle Pass, Tex.	61	1,524.58			32.97
Fort Meyer, Va.	251	1,370.51	11.96	8.90	27.71
St. Francis Barracks, Fla.	145	1,365.51			24.00
Washington Barracks, D. C.	316	1,348.08	18.80	3.16	23.00
Fort Hancock, Tex.	50	1,271.18	16.95	16.95	23.35
Sandy Hook Proving Ground, N. J.	69	1,202.80	43.48		22.20
Fort Clark, Tex.	357	1,128.64	11.21	8.46	31.66
Fort Wingate, N. Mex.	354	1,104.53	14.12		30.67
Fort Brown, Tex.	120	1,066.67	8.34	8.34	32.03
Watervliet Arsenal, N. Y.	61	1,049.18	32.70		33.55
Fort Bliss, Tex.	203	1,010.23	37.54	6.02	26.30
Fort Sam Houston, Tex.	547	974.40	20.11	10.97	31.59
Fort Keogh, Mont.	475	944.83	6.90	4.00	31.38
Fort Walla Walla, Wash.	197	928.63	5.07		27.70
West Point, N. Y.	384	901.04	5.21	5.21	14.33
Fort Meade, S. Dak.	309	890.71	1.01	2.80	21.08
Presidio of San Francisco, Cal.	478	872.30	10.47	6.28	24.24
Fort Sill, Okla.	315	800.33		6.33	28.01
Fort Hamilton, N. Y.	288	854.46			11.97
The Army	25,376	700.10	9.11	4.28	28.06

TABLE X.—Twenty posts having the highest noneffective rates for disease, excluding venereal diseases, vaccina and alcoholism; also the average number sick daily, the average duration of each case, and the corresponding average rates of the Army, year 1894.

Name of station.	Mean strength.	Ratios per 1,000 of mean strength constantly non-effective.	Average number of sick daily.	Average number of days each case was treated.
Key West Barracks, Fla.....	119	48.28	5.75	10.04
Watervliet Arsenal, N. Y.....	61	38.95	2.38	13.55
San Carlos, Ariz.....	144	36.61	5.27	27.11
Fort Bliss, Tex.....	293	36.36	10.65	13.14
Camp Eagle Pass, Tex.....	61	32.97	2.01	7.89
Fort Brown, Tex.....	120	32.63	3.92	11.16
Fort Clark, Tex.....	357	31.64	11.30	10.23
Fort Sam Houston, Tex.....	547	31.29	17.11	11.72
Fort Wadsworth, N. Y.....	184	30.89	5.59	16.07
Fort Wingate, N. Mex.....	354	30.07	10.65	9.94
San Diego Barracks, Cal.....	71	29.09	2.07	16.76
Fort Omaha, Nebr.....	498	28.24	14.05	13.94
Fort Myer, Va.....	251	27.74	6.96	7.39
Fort Walla Walla, Wash.....	197	27.70	5.46	10.89
Fort Preble, Me.....	67	26.87	1.80	13.41
Fort Yates, N. Dak.....	262	26.42	6.93	12.90
Fort Warren, Mass.....	125	26.31	3.29	13.95
Fort Sill, Okla.....	315	26.01	8.19	11.03
Washington Barracks, D. C.....	316	25.99	8.21	7.04
Whipple Barracks, Ariz.....	246	25.94	6.38	16.06
The Army.....	25,876	20.04	508.37	10.44

TABLE XI.—The military posts in each department, showing the rates of admission, death, discharge, and constant noneffectiveness for disease, excluding venereal diseases, vaccina and alcoholism, year 1894.

DEPARTMENT OF THE EAST.

Name of station.	Mean strength.	Ratios per 1,000 of mean strength.			
		Admis-sions.	Dis-charges.	Deaths.	Con-stantly non-effective.
Springfield Armory, Mass.....	35	1,800.00	.....	.....	34.21
Key West Barracks, Fla.....	119	1,756.31	16.81	8.40	48.28
Columbia Arsenal, Tenn.....	20	1,700.06	.....	.....	64.53
Fort Myer, Va.....	251	1,370.51	11.96	3.99	27.74
St. Francis Barracks, Fla.....	145	1,365.51	.....	.....	24.60
Washington Barracks, D. C.....	316	1,348.08	18.99	3.16	25.99
Sandy Hook Proving Ground, N. J.....	69	1,202.89	43.48	.....	22.39
Mount Vernon Barracks, Ala.....	149	1,100.68	20.14	.....	26.91
Watertown Arsenal, Mass.....	39	1,051.29	.....	25.64	11.52
Watervliet Arsenal, N. Y.....	61	1,049.18	32.79	.....	38.95
Kennebec Arsenal, Me.....	15	1,000.00	.....	.....	7.49
Frankford Arsenal, Pa.....	43	953.48	.....	23.26	42.32
West Point, N. Y.....	384	901.04	5.21	5.21	14.35
Fort Hamilton, N. Y.....	268	854.46	.....	.....	11.97
Fort Columbus, N. Y.....	188	824.47	15.96	15.96	23.25
Willets Point, N. Y.....	413	813.56	4.84	7.27	16.02
Allegheny Arsenal, Pa.....	32	781.25	.....	.....	14.30
Fort Schuyler, N. Y.....	125	776.00	8.00	8.00	15.21
Fort Thomas, Ky.....	400	757.50	12.50	10.00	23.21
Fort Ontario, N. Y.....	53	754.72	56.60	18.87	16.50
Fort Preble, Me.....	67	731.31	.....	.....	26.87
Jackson Barracks, La.....	121	728.26	24.80	8.26	17.36
David's Island, N. Y.....	368	695.64	21.74	5.43	18.17
Fort Monroe, Va.....	512	693.34	5.86	7.82	22.98
Columbus Barracks, Ohio.....	524	692.78	3.81	9.54	24.87
Fort Wadsworth, N. Y.....	184	690.20	16.30	5.43	30.39
Fort Warren, Mass.....	125	688.00	8.00	.....	26.31
Fort McHenry, Md.....	181	685.10	22.10	.....	15.51
Fort Barrancas, Fla.....	131	648.85	7.63	.....	18.15
Fort Ethan Allen, Vt.....	58	637.93	.....	.....	26.31
Fort Adams, R. I.....	277	628.16	3.61	.....	18.04
Fort Niagara, N. Y.....	217	617.51	.....	.....	12.29
Newport Barracks, Ky.....	51	588.24	.....	10.61	12.27

TABLE III.—Military posts in each department, alphabetically arranged, etc.—Continued.

DEPARTMENT OF TEXAS.

Name of station.	Mean strength.	Cases.			Admission rate per 1,000 of mean strength.	Average number of sick daily.	Constantly non-effective per 1,000 of mean strength.	Discharges for disability.	Deaths.	Altitude of station.	Temperature.			Total precipitation.
		Disease.	Injury.	Total.							Mean.	Maximum.	Minimum.	
Bliss, Fort, Tex.....	203	333	74	411	1,402.73	15.45	52.71	18	5	5,700	63.4	102°	14	4.34
Brown, Fort, Tex.....	120	147	39	186	1,550.00	7.14	59.54	2	2	47	73.9	102°	27	18.33
Clark, Fort, Tex.....	357	487	91	578	1,619.04	18.70	52.39	6	3	1,133	79.7	108	20	30.79
Eagle Pass, Camp, Tex..	61	113	22	135	2,213.11	3.72	90.85	1	1	800	71.3	110°	18	30.03
Hancock, Fort, Tex....	59	92	23	115	1,949.15	3.55	60.18	0	0	12,500	59.5	109°	1	7.16
McIntosh, Fort, Tex....	170	165	45	210	1,215.29	8.51	50.04	4	4	806	74.1	108°	15	17.57
Ringgold, Fort, Tex....	190	176	38	214	1,349.16	9.65	54.60	3	3	147	74.9	105°	22	21.60
San Houston, Fort, Tex.	547	660	145	805	1,471.60	20.16	47.81	14	7	779	(?)	(?)	(?)	(?)
San Antonio, headquar- ters, Tex.....	29													
Field.....	56	71	8	79	1,410.71	1.12	12.91		2	781	79.1	108°	16	21.73
Total.....	1,858	2,244	489	2,733	1,470.94	33.38	50.27	45	26					

¹ Observations made at El Paso, Tex.² See San Antonio, Tex.

DEPARTMENT OF THE COLORADO.

Apache, Fort, Ariz.....	190	136	58	194	1,021.05	6.49	34.15	6	5	5,300	52.9	98°	—	12.17.42
Bayard, Fort, N. Mex....	328	136	47	183	557.69	6.97	21.25	2	2	2,750	55.5	95°	8	8.67
Bowie, Fort, Ariz.....	93	52	47	94	1,010.75	2.94	31.58	1	1	1,479				
Denver, headquarters, Colo.....	25	12		12	480.00	.55	22.14				50.6	98°	—	8.15.09
Douglas, Fort, Utah.....	462	462	116	578	1,251.08	18.40	30.23	4	4	5,420	50.9	98°	—	1.15.27
Dr. Chas. Fort, Utah....	119	65	41	106	890.76	3.84	30.60	1	1	3,000	48.5	98°	—	24.4.44
Grant, Fort, Ariz.....	243	248	110	348	1,147.71	9.35	31.91	4	4	4,916	60.3	101°	10	12.53
Huachuca, Fort, Ariz....	301	177	48	225	747.51	8.29	27.55	4	4	15,100	59.6	98°	—	14.12.56
Logan, Fort, Colo.....	415	381	79	460	1,108.43	12.80	29.63	3	3	3,540	50.6	98°	—	8.15.09
Marcy, Fort, N. Mex....	91	100	12	112	1,230.77	3.79	41.60	2	2	27,027	48.9	98°	—	13.21
San Carlos, Ariz.....	144	78	15	93	645.63	0.03	41.87	3	3	2,456	63.2	110°	15	16.13
Stanton, Fort, N. Mex....	105	63	23	88	819.05	1.42	13.52	1	1	6,192	62.7	94°	—	1.12.14
Whipple Barracks, Ariz..	246	163	88	201	817.07	9.03	36.72	8	8	25,318	52.2	95°	—	6.11.97
Wingate, Fort, N. Mex....	354	447	144	591	1,000.49	18.53	52.38	11	11	7,000	55.9	98°	—	6.14.46
Field.....	168	72	25	97	577.38	1.27	7.53	1	1					
Total.....	1,334	2,582	708	3,340	1,013.80	102.00	32.70	46	16					

¹ Observations made at Denver, Colo.

DEPARTMENT OF CALIFORNIA.

Alcatraz Island, Cal....	114	66	13	79	692.98	3.07	26.94	1	1	125	(?)	(?)	(?)	(?)
Angel Island, Cal.....	283	129	34	167	590.10	6.90	24.46	3	1	150	(?)	(?)	(?)	(?)
Benicia Barracks, Cal....	200	146	44	192	618.06	5.12	24.48	1	1	180	(?)	(?)	(?)	(?)
Mason, Fort, Cal.....	67	19	6	25	373.13	1.00	14.92	1	1	80	(?)	(?)	(?)	(?)
Presidio of San Fran- cisco, Cal.....	478	474	151	625	1,307.33	20.72	43.35	9	3	38	(?)	(?)	(?)	(?)
San Diego Barracks, Cal.	71	33	11	66	629.58	4.25	59.61	3	1	6	59.4	96°	22	4.25
San Francisco, headquar- ters, Cal.....	37	4	1	5	135.14	.60	17.77				55.1	94°	26	2.12
Field.....	201	174	66	210	1,194.03	3.07	15.29		4					
Total.....	1,400	1,080	330	1,330	954.22	44.79	30.66	15	10					

¹ See San Francisco, Cal.

TABLE XI.—*The military posts in each department, showing the rates of admission, death, discharge, and constant noneffectiveness for disease, excluding venereal diseases, vaccina and alcoholism, year 1894—Continued.*

DEPARTMENT OF TEXAS.

Name of station.	Mean strength.	Rates per 1,000 of mean strength.			
		Admissions.	Discharges.	Deaths.	Constantly non-effective
Camp Eagle Pass, Tex	61	1,524.58	.....	.....	32.97
Fort Hancock, Tex	59	1,271.18	16.95	16.95	23.35
Fort Clark, Tex	357	1,128.84	11.21	8.40	31.64
Fort Brown, Tex	120	1,066.67	8.34	8.34	32.63
Fort Bliss, Tex	293	1,010.23	37.54	6.82	36.96
Fort Sam Houston, Tex	547	974.40	20.11	10.97	31.29
Fort McIntosh, Tex	170	694.12	.....	11.77	22.33
Fort Ringgold, Tex	166	644.57	.....	.....	20.68
San Antonio (headquarters), Tex	29	.....	.....	68.97	.....
Field	56	892.85	.....	.....	18.06

DEPARTMENT OF THE COLORADO.

Fort Wingate, N. Mex	354	1,104.53	14.12	.....	30.07
Fort Marcy, N. Mex	91	912.08	.....	.....	24.48
Fort Douglas, Utah	462	785.71	4.34	4.34	18.48
Fort Logan, Colo	415	727.71	4.82	7.23	17.14
Fort Grant, Ariz	293	720.13	6.82	.....	17.24
Fort Apache, Ariz	190	642.11	26.32	.....	20.71
Whipple Barracks, Ariz	246	589.43	12.20	4.06	25.94
Fort Stanton, N. Mex	105	571.43	9.52	.....	9.47
Fort Huachuca, Ariz	301	544.86	3.32	3.32	16.56
Fort Du Chesne, Utah	119	521.01	8.40	.....	10.89
San Carlos, Ariz	144	493.05	20.83	.....	36.61
Fort Bowie, Ariz	93	483.88	10.75	10.75	19.11
Denver (headquarters), Colo	25	440.00	.....	.....	21.92
Fort Bayard, N. Mex	328	368.91	.....	6.10	18.71
Field	168	386.91	5.95	.....	3.48

DEPARTMENT OF CALIFORNIA.

Presidio of San Francisco, Cal	478	872.39	10.47	6.28	24.24
San Diego Barracks, Cal	71	633.81	23.17	14.08	29.09
Benicia Barracks, Cal	209	550.23	4.78	.....	13.23
Alcatraz Island, Cal	114	429.81	8.77	.....	14.78
Angel Island, Cal	283	371.02	7.07	.....	17.49
Fort Mason, Cal	67	223.88	14.93	14.93	9.32
San Francisco (headquarters), Cal	37	108.11	.....	.....	14.88
Field	201	771.14	.....	.....	8.38

DEPARTMENT OF THE COLUMBIA.

Fort Walla Walla, Wash	197	928.93	5.07	.....	27.70
Fort Spokane, Wash	136	499.99	.....	.....	16.68
Boise Barracks, Idaho	117	427.35	3.55	.....	10.80
Fort Townsend, Wash	64	421.87	13.62	.....	8.48
Fort Sherman, Idaho	303	405.94	9.90	9.90	12.35
Fort Canby, Wash	113	353.98	9.85	.....	9.56
Vancouver Barracks, Wash	437	302.05	2.29	4.58	10.88
Field	78	205.13	.....	.....	1.82

TABLE XII. Ratios of admission to sick report, discharge, death, and constantly noneffective of the Army and of the troops in the several departments for the year as compared with the ratios for the decade 1883-1892.

For the decade 1883-1892.												
Causes of admission to sick report.	White.			Negro.			Indian.			Total.		
	21,694.			2,250.			102.			24,046.		
	Admissions.	Discharges.	Deaths.	Admissions.	Discharges.	Deaths.	Admissions.	Discharges.	Deaths.	Admissions.	Discharges.	Deaths.
SPECIAL.												
Vaccinia.....	26.28	.05	.86	21.20	.....	1.01	197.85	.....	.....	26.54	.....	.87
Typhoid fever.....	6.88	.15	.18	3.69	.....	.40	.....	.....	.....	6.55	.04	.20
Malarial infections.....	114.35	.10	.04	119.45	.12	.....	36.06	.....	.....	114.50	.14	.04
Rheumatic fever.....	5.61	1.77	.48	6.04	.04	.81	4.87	.91	.....	5.65	.09	.54
Tuberculosis of the lungs.....	3.12	2.81	.02	4.22	2.35	.....	28.27	11.86	7.30	3.33	1.87	.02
Syphilis.....	30.18	.29	.....	44.35	4.13	.....	27.29	.....	.....	31.49	2.92	.....
Gonorrhea.....	35.75	3.50	.02	36.00	.12	.....	48.74	.....	.....	35.82	.28	.....
All venereal diseases.....	77.46	.25	.21	92.92	4.53	.....	89.67	.....	.....	78.96	3.59	.19
Alcoholism and direct results.....	52.10	.21	.....	4.13	.04	.....	.97	.....	.....	47.40	.23	.....
Neuralgia.....	37.40	.004	.004	50.89	.16	.....	13.64	.....	.....	38.56	.20	.....
Tonsillitis.....	45.23	.01	.....	63.24	.....	.....	30.22	.....	.....	46.84	.004	.....
Colic and constipation.....	41.00	.36	.17	63.42	.04	.....	44.83	.....	.....	43.11	.02	.....
Diarrheal diseases.....	140.74	1.72	.47	141.23	.28	.20	59.45	.....	.....	140.43	.35	.44
Diseases of the heart.....	6.19	.05	.....	5.20	1.43	.....	1.95	.....	.....	6.08	1.69	.....
Coryza.....	54.60	.37	.06	68.26	.....	.....	12.67	.....	.....	55.16	.05	.....
Bronchitis.....	71.57	.08	.68	77.06	.20	1.74	75.05	.....	.....	72.10	.35	.77
Pneumonia.....	4.05	.24	.26	7.60	.40	.24	7.80	.....	.....	4.40	.08	.25
Diseases of the kidneys.....	1.78	2.31	.05	2.80	2.61	.04	.....	.....	.....	1.87	.25	.05
Rheumatism and myalgia.....	86.77	.03	.004	127.11	.08	.....	70.18	1.82	.....	90.47	2.33	.004
Boils and abscesses.....	48.07	.12	.....	83.20	.16	.....	45.81	.....	.....	46.66	.03	.....
Conjunctivitis.....	13.78	1.24	.....	18.89	1.42	.....	38.93	.91	.....	14.37	.13	.....
All diseases of the eye.....	19.89	.79	.01	30.48	.20	.....	52.63	.....	.....	21.02	1.25	.....
All diseases of the ear.....	8.64	.35	.01	8.82	.40	.04	13.64	.....	.....	8.21	.74	.01
Contusions and sprains.....	137.98	.15	.004	155.63	.16	.....	144.25	.....	.....	139.66	.36	.01
Dislocations.....	2.54	.68	.11	2.09	.40	.16	6.82	.....	.....	2.51	.15	.004
Fractures, not gunshot.....	7.03	.23	.11	5.29	.28	.08	11.70	.....	.91	6.89	.65	.12
Wounds, not gunshot.....	41.35	.83	1.14	60.48	1.25	1.66	69.30	.....	.....	43.26	.23	.11
Wounds, gunshot.....	3.88	.....	.....	8.58	.....	.....	7.80	1.82	5.47	4.33	.88	1.21
GROUPED.												
Infectious diseases, general and local.....	294.57	5.70	2.02	325.22	7.40	2.75	431.05	12.77	8.21	297.08	6.89	2.12
Diseases of nutrition, general.....	2.71	.63	.07	2.09	.40	.....	.....	.....	.....	2.64	.61	.07
Diseases of the nervous system.....	126.11	4.20	.96	104.17	3.86	.24	40.04	2.74	.91	126.49	4.20	.89

TABLE IV.—General view of the results of disease and injury at each of the military stations, arranged in the order of their mean strength—Continued.

GROUP 4—Continued.

Name of station.	Mean strength.	Admission rate per 1,000 of mean strength.	Constantly non-effective.			Discharges.		Deaths.	
			Daily average in hospital.	Ratio per 1,000 of mean strength.		Number.	Ratio per 1,000 of mean strength.	Number.	Ratio per 1,000 of mean strength.
				Cases in hospital.	All cases.				
Jackson Barracks, La	121	1,132.23	4.32	35.71	36.79	7	57.86	1	8.26
Fort Brown, Tex	120	1,550.00	5.54	46.12	50.54	2	16.67	2	16.67
Fort Du Chesne, Utah	119	890.76	2.47	20.75	30.60	1	8.40	.....	.....
Key West Barracks, Fla.	119	2,226.89	5.89	49.45	61.68	2	16.81	1	8.40
Boise Barracks, Idaho	117	726.50	1.36	11.61	17.38	1	8.55	.....	.....
Fort Porter, N. Y.	114	833.33	1.23	10.79	17.76	1	8.77	1	8.77
Alcatraz Island, Cal.	114	692.98	2.28	20.00	26.94	1	8.77	.....	.....
Fort Canby, Wash.	113	548.67	1.00	8.87	14.09	1	8.85	1	8.85
Fort Stanton, N. Mex.	105	819.05	.74	7.04	13.52	1	9.52	.....	.....
Fort Yellowstone, Wyo.	102	529.41	.87	8.49	9.86	.....	.....	1	9.80
Mean	142	.....	3.72	.....	.....	.....	.....	.....	.....
Summary	4,130	1,094.43	107.90	26.14	35.91	57	13.80	23	5.57

GROUP 5.—Thirty-eight stations, garrisoned by 1 to 100 men each; average, 48.

Fort Sidney, Nebr.	94	1,319.15	2.87	30.49	39.29	.....	.....	2	21.28
Fort Bowie, Ariz.	93	1,010.75	1.87	20.09	31.58	1	10.75	1	10.75
Fort Marcy, N. Mex.	91	1,230.77	2.26	24.78	41.66	2	21.98	2	21.98
San Diego Barracks, Cal.	71	929.58	3.57	50.28	59.21	3	42.25	1	14.08
Sandy Hook Proving Ground, N. J.	69	1,579.71	.01	.12	30.22	3	43.48	.....	.....
Fort Preble, Me.	67	1,223.88	2.39	35.74	43.63	.....	.....	.....	.....
Fort Mason, Cal.	67	373.13	.45	6.67	14.93	1	14.93	1	14.93
Fort Trumbull, Conn.	65	446.15	.65	9.99	11.00	.....	.....	1	15.38
Fort Townsend, Wash.	64	750.00	.90	14.08	20.55	1	15.62	4	62.50
Rock Island Arsenal, Ill.	64	812.50	.50	7.83	20.59	.....	.....	1	15.62
Watervliet Arsenal, N. Y.	61	1,213.11	1.15	18.82	45.59	2	32.79	.....	.....
Camp Eagle Pass, Tex.	61	2,213.11	1.90	31.17	60.95	1	16.39	.....	.....
Fort Pembina, N. Dak.	60	600.00	.78	13.06	15.25	.....	.....	.....	.....
Fort Hancock, Tex.	59	1,949.15	2.37	40.22	60.18	4	67.80	1	16.95
Fort Ethan Allen, Vt.	58	1,310.34	2.16	37.27	46.58	.....	.....	.....	.....
Fort Ontario, N. Y.	53	1,471.70	1.56	29.47	42.70	4	75.47	1	18.87
Fort Mackinac, Mich.	52	365.38	.23	4.43	8.32	.....	.....	.....	.....
Camp Pilot Butte, Wyo.	51	627.45	1.10	21.54	30.25	.....	.....	1	19.61
Newport Barracks, Ky.	51	1,000.00	.48	9.45	20.74	.....	.....	1	19.61
Headquarters Department of the Missouri, Chicago, Ill.	46	239.13	.....	.....	8.16	.....	.....	.....	.....
New York, N. Y.	44	204.55	.....	.....	12.27	.....	.....	.....	.....
Headquarters Department of Dakota, St. Paul, Minn.	43	162.79	.19	4.46	8.03	.....	.....	1	23.26
Frankford Arsenal, Pa.	43	1,139.54	.27	6.31	50.02	.....	.....	1	23.26
Fort Wood, New York Harbor.	41	609.76	.06	1.54	4.28	1	24.39	.....	.....
Watertown Arsenal, Mass.	39	1,205.13	.23	5.90	14.75	1	25.64	1	25.64
Headquarters Department of California, San Francisco, Cal.	37	135.14	.....	.....	17.77	.....	.....	.....	.....
Springfield Armory, Mass.	35	2,114.28	.20	5.79	41.65	.....	.....	.....	.....
Allegheny Arsenal, Pa.	32	1,031.25	.14	4.28	29.03	.....	.....	.....	.....
Headquarters Department of Texas San Antonio, Tex.	29	.....	.....	.....	.....	.....	.....	2	68.97
Augusta Arsenal, Ga.	28	500.00	.29	10.47	13.31	.....	.....	.....	.....
Headquarters Department of the Platte, Omaha, Nebr.	27	111.11	.....	.....	15.32	.....	.....	.....	.....
Headquarters Department of the Colorado, Denver, Colo.	25	480.00	.....	.....	22.14	.....	.....	.....	.....
Indianapolis Arsenal, Ind.	25	1,040.00	.....	.....	37.48	1	40.00	.....	.....
Columbia Arsenal, Tenn.	20	1,900.00	.....	.....	67.68	.....	.....	.....	.....
Kennebec Arsenal, Me.	15	1,200.00	.01	.91	10.96	.....	.....	.....	.....
Philadelphia, Pa.	14	357.15	.....	.....	6.85	.....	.....	.....	.....
Baltimore, Md.	13	76.92	.....	.....	.63	.....	.....	.....	.....
Boston, Mass.	11	181.81	.....	.....	2.74	.....	.....	.....	.....
Mean	48	.....	.75	.....	.....	.....	.....	.....	.....
Summary	1,818	954.90	28.60	15.73	29.77	25	13.75	22	12.10

TABLE IV.—General view of the results of disease and injury at each of the military stations, arranged in the order of their mean strength—Continued.

GROUP 6.—Field.

Name of station.	Mean strength.	Admission rate per 1,000 of mean strength.	Constantly non-effective.			Discharges.		Deaths.	
			Daily average in hospital.	Ratio per 1,000 of mean strength.		Number.	Ratio per 1,000 of mean strength.	Number.	Ratio per 1,000 of mean strength.
				Cases in hospital.	All cases.				
Department of Dakota	269	944.24	.....	.....	11.37	1	3.72	3	11.15
Department of the Missouri	200	1,368.42	.....	.....	12.57	.....	.....	5	21.92
Department of California	201	1,194.03	.....	.....	15.29	.....	.....	4	19.90
Department of the Colorado	168	577.38	.....	.....	7.53	1	5.95	.....	.....
Department of the Columbia	78	461.54	.....	.....	5.27	.....	.....	1	12.62
Department of the Platte	75	546.67	.....	.....	8.58	.....	.....	1	13.33
Department of Texas	56	1,410.71	.....	.....	19.01	.....	.....	.....	.....
Department of the East	35	914.29	.....	.....	11.04	.....	.....	.....	.....
Summary	1,091	976.17	.....	.....	11.54	2	1.83	14	12.83
Army and Navy General Hospital, Hot Springs, Ark	38	.....	20.50	.....	.....	8	.....	1	.....
At large .....	.....	.....	.....	.....	.....	21	.....	2	.....
Total for the Army	25,376	1,089.73	611.44	24.10	34.49	368	13.30	185	6.00

TABLE V. Twenty posts having the highest admission rates for the year 1894; also their admission rates for the years 1889 to 1893, inclusive.

Name of station	Mean strength.	Ratios per 1,000 of mean strength.				Admission rates per 1,000 of mean strength.				
		Admissions.	Discharges.	Deaths.	Constantly non-effective.	1893.	1892.	1891.	1890.	1889.
Key West Barracks, Fla	119	2,226.89	16.81	8.40	61.68	1,360.66	.....	.....	.....	.....
Camp Eagle Pass, Tex	61	2,213.11	16.39	.....	60.95	2,196.43	2,113.21	1,788.46	2,053.57	1,145.45
Fort Myer, Va	251	2,167.33	19.92	7.97	53.18	2,034.75	1,618.64	1,063.58	1,350.36	1,196.65
Fort Hancock, Tex	59	1,949.15	67.80	16.95	60.18	1,792.45	1,860.00	1,530.61	1,183.67	1,695.65
St. Francis Barracks, Fla	145	1,855.17	6.90	.....	37.88	1,767.44	1,967.48	3,121.50	2,015.38	1,568.97
Washington Barracks, D C	316	1,794.30	22.15	3.16	42.33	2,027.87	1,981.93	1,774.19	1,329.41	1,139.44
Fort Wingate, N Mex	354	1,669.49	31.07	.....	52.35	1,564.10	1,396.65	1,776.47	1,788.30	1,696.46
Fort Clark, Tex	357	1,619.04	16.81	8.40	52.39	2,165.60	1,548.94	1,256.72	1,669.44	1,355.30
Sandy Hook Proving Ground, N J	6	1,579.71	43.48	.....	30.22	2,362.07	1,884.62	1,590.91	1,812.50	.....
Fort Brown, Tex	129	1,550.09	16.67	16.67	59.54	1,879.52	576.27	790.32	1,881.48	2,710.34
Fort Meade, S Dak	290	1,543.86	10.02	5.01	49.80	1,590.00	1,556.90	1,961.11	853.90	1,312.14
Fort Sam Houston, Tex	547	1,471.66	25.60	12.80	47.81	1,359.28	1,683.84	1,985.97	2,430.69	1,262.61
Columbus Barracks, Ohio	524	1,442.75	5.72	11.45	66.06	2,578.27	2,059.23	2,209.89	1,876.49	2,318.86
Fort Walla Walla, Wash	197	1,416.24	10.15	.....	47.95	1,502.65	1,156.86	1,196.72	1,311.32	1,104.10
Fort Bliss, Tex	293	1,402.71	61.43	17.06	52.71	2,290.00	822.43	1,127.27	975.61	1,067.80
Jefferson Barracks, Mo	327	1,330.27	9.18	.....	23.42	2,004.13	875.49	1,068.49	1,000.00	968.86
David's Island, N Y	368	1,326.08	29.89	5.43	36.76	2,283.70	2,115.32	1,884.82	1,642.86	1,269.67
Fort Columbus, N Y	188	1,319.16	21.28	15.96	36.78	1,088.08	815.57	853.66	1,073.17	1,029.41
Presidio of San Francisco, Cal	478	1,307.53	18.83	6.28	43.35	1,189.80	1,034.41	1,424.11	1,413.19	1,578.41
Fort Ringgold, Tex	166	1,289.16	.....	12.05	54.60	1,939.60	1,716.42	1,366.07	805.55	562.50
The Army	25,376	1,089.73	13.30	6.69	34.49	1,289.04	1,270.42	1,364.78	1,364.25	1,315.02

Diseases of nutrition, general.....	1.40	.44	.04	.12	.48	.....	.....	.02	2.59	.....	.....	.02	1.34	.40	.04	.11
Diseases of the nervous system.....	70.59	1.84	.92	1.76	41.71	1.34	.45	1.52	28.50	.....	.....	.27	67.59	1.77	.87	1.72
Diseases of the digestive system.....	245.41	.60	.44	3.81	165.39	.45	.45	2.45	139.90	.....	.....	2.09	237.23	.58	.43	3.67
Diseases of the circulatory system.....	5.11	1.04	.48	.46	3.36	.89	.89	.23	.....	2.25	.....	.....	4.89	1.01	.54	.43
Diseases of the respiratory organs.....	80.64	.36	.68	1.74	69.03	.45	.89	1.80	85.49	.....	.....	2.94	79.76	.36	.69	1.76
Diseases of the genito-urinary system.....	10.04	.60	.08	.77	8.63	.45	.45	.69	2.59	.....	.....	.10	9.81	.58	.11	.75
Diseases of the lymphatic system and duct- less glands.....	3.97	.....	.....	.33	4.31	.....	.....	.28	10.36	.....	.....	1.08	4.10	.....	.....	.34
Diseases of the muscles, bones and joints...	68.55	1.60	.....	2.94	78.14	.89	.....	2.93	41.45	2.25	.....	1.82	68.92	1.55	.....	2.91
Diseases of the integument and subcuta- neous connective tissue.....	75.71	.....	.....	1.75	30.68	.....	.....	.74	62.18	.....	.....	2.26	71.80	.....	.....	1.67
Diseases of the organs of special sense.....	24.67	1.28	.04	1.11	11.50	.89	.....	1.07	62.18	2.25	.....	1.63	24.16	1.23	.07	1.12
Unclassified.....	2.45	.....	.04	.04	1.92	.....	.....	.03	.....	.....	.....	.....	2.36	.....	.04	.04
General injuries.....	3.49	.12	1.24	.03	1.92	.....	.....	.01	.....	.....	.....	.....	3.31	.11	1.12	.07
Injuries to special parts.....	241.31	2.84	.80	7.79	233.94	1.79	1.79	7.15	253.89	4.50	9.01	12.36	240.90	2.78	1.01	7.81
Total for diseases.....	871.64	10.00	4.44	27.31	575.74	7.61	4.47	18.77	753.89	13.51	11.26	27.16	845.52	10.41	4.55	26.60
Total for injuries.....	244.80	2.96	2.04	7.87	235.88	1.79	1.79	7.16	253.89	4.50	9.01	12.36	244.21	2.89	2.13	7.88
Total for all causes.....	1,116.44	13.56	6.48	35.18	811.60	9.40	6.26	25.93	1,007.77	18.02	20.27	39.52	1,089.73	13.30	6.69	34.49

TABLE XII.—Ratios of admission to sick report, discharge, death, and constantly noneffective of the Army and of the troops in the several departments for the year as compared with the ratios for the decade 1883-1892.—Continued.

Causes of admission to sick report.	White.				Negro.				Indian.				Total.			
	22,904.				2,086.				386.				25,376.			
	Admissions.	Discharges.	Deaths.	Constantly nonefective.	Admissions.	Discharges.	Deaths.	Constantly nonefective.	Admissions.	Discharges.	Deaths.	Constantly nonefective.	Admissions.	Discharges.	Deaths.	Constantly nonefective.
SPECIAL.																
Vaccinia.....	35.19	.....	.....	.90	23.97	.....	.....	.52	20.73	.....	.....	.84	34.05	.....	.....	.86
Typhoid fever.....	6.59	.....	.80	.98	1.44	.....	.....	.07	.....	.....	.....	.....	6.07	.....	.72	.89
Malarial infections.....	79.33	.....	.08	1.98	34.52	.....	.....	.83	18.14	.....	.....	.52	74.72	.....	.07	1.88
Rheumatic fever.....	4.58	.....	.....	.52	5.27	.....	.....	.71	5.18	.....	.....	.63	4.65	.....	.....	.54
Tuberculosis of the lungs.....	2.66	1.48	.52	.63	1.92	1.34	.45	.44	25.91	9.01	6.76	4.24	2.96	1.59	.61	.67
Syphilis.....	12.62	1.16	.04	1.30	8.15	.89	.....	1.56	5.18	2.25	.....	1.14	12.14	1.16	.04	1.32
Gonorrhea.....	46.80	.10	.....	2.72	27.80	.....	.....	1.16	116.58	.....	.....	5.27	46.30	.14	.....	2.63
All venereal diseases.....	82.21	1.32	.04	5.47	47.46	.89	.....	3.39	152.85	2.25	.....	7.08	80.43	1.30	.04	5.32
Alcoholism and direct results.....	33.79	.....	.32	.43	4.79	.....	.....	.02	2.59	.....	.....	.01	30.94	.....	.29	.39
Neuralgia.....	17.25	.12	.....	.49	23.01	.....	.....	.47	15.54	.....	.....	.16	17.69	.11	.....	.49
Tonsillitis.....	40.04	.....	.....	.64	29.24	.....	.....	.39	31.09	.....	.....	.50	39.02	.....	.....	.62
Colic and constipation.....	24.67	.04	.....	.28	30.68	.....	.....	.81	15.54	.....	.....	.11	25.02	.04	.....	.28
Diarrheal diseases.....	99.59	.04	.12	.99	53.21	.....	.....	.56	33.63	.....	.....	.35	94.77	.04	.11	.94
Diseases of the heart.....	4.06	.96	.40	.36	2.88	.89	.45	.23	.....	.....	2.25	.....	3.90	.94	.43	.34
Coryza.....	33.84	.....	.....	.31	37.87	.....	.....	.34	18.14	.....	.....	.....	33.93	.....	.....	.31
Bronchitis.....	37.15	.08	.....	.69	23.01	.....	.....	.48	38.86	.....	.....	.....	36.02	.07	.....	.63
Pneumonia.....	3.14	.....	.64	.31	4.31	.45	.89	.47	15.54	.....	.....	1.22	3.43	.04	.65	.33
Diseases of the kidneys.....	1.48	.20	.06	.25	.96	.45	.45	.34	.....	.....	.....	.....	1.42	.22	.11	.25
Rheumatism and myalgia.....	62.87	.92	.....	2.78	72.87	.45	.....	2.99	38.86	.....	.....	1.14	63.33	.87	.....	2.77
Boils and abscesses.....	39.91	.....	.....	.84	14.86	.....	.....	.27	31.09	.....	.....	1.31	37.71	.....	.....	.30
Conjunctivitis.....	10.13	.08	.....	.31	4.79	.45	.....	.28	31.09	.....	.....	.66	10.01	.11	.....	.32
All diseases of the eye.....	17.42	1.00	.....	.78	8.15	.89	.....	.91	51.81	.....	.....	1.23	17.18	.98	.....	.90
All diseases of the ear.....	5.72	.24	.04	.20	2.88	.....	.....	.08	7.77	.....	2.25	.36	5.52	.23	.07	.20
Contusions and sprains.....	123.32	.20	.04	3.10	117.93	.....	.....	2.38	116.58	.....	.....	5.26	127.29	.18	.04	3.07
Dislocations.....	2.40	.12	.....	.19	2.40	.....	.....	.12	5.18	.....	.....	.97	2.44	.11	.....	.20
Fractures, not gunshot.....	6.59	.44	.04	1.17	.96	.....	.45	.07	10.36	.....	2.25	1.82	6.19	.40	.11	1.09
Wounds, not gunshot.....	50.12	.24	.04	1.83	53.49	.....	.....	2.04	62.18	.....	.....	1.26	50.99	.23	.04	1.39
Wounds, gunshot.....	3.23	.53	.40	.53	3.84	.45	1.34	.79	10.36	.....	6.76	1.53	3.39	.51	.76	.55
GROUPED.																
Infectious diseases, general and local.....	233.09	2.84	1.72	12.43	160.59	2.24	1.34	7.00	318.65	11.26	6.76	15.44	273.57	2.93	1.77	12.07
Local infections (also entered under diseases of organs).....	125.47	.20	.04	3.03	74.78	.45	.39	2.12	116.58	.....	.....	4.64	121.13	.23	.69	2.96

TABLE XII.—*Ratio of admission to sick report, discharge, death, and constantly non-effective of the Army and of the troops in the several departments for the year as compared with the ratios for the decade 1883-1892—Continued.*

For the year 1894.....	Department of the Platte.				Department of Texas.				Department of the Colorado.			
Mean strength.....	2,368.				1,858.				8,334.			
Cause of admission to sick report.	Admission.	Discharge.	Deaths.	Constantly non- effective.	Admission.	Discharge.	Deaths.	Constantly non- effective.	Admission.	Discharge.	Deaths.	Constantly non- effective.
SPECIAL.												
Vaccinia.....	12.09			.24	67.82			1.68	22.50			.56
Typhoid fever.....	9.29		.84	1.42	18.84			2.15	2.51			8.60
Malarial infections.....	42.30		.94	1.04	118.95			4.51	42.89		.60	1.74
Rheumatic fever.....	4.05		.51		4.31			.49	7.50			.98
Tuberculosis of the lungs.....	2.63	.42	1.27	.31	4.31	3.77	2.15	1.59	2.70	1.50	.60	.79
Syphilis.....	9.72			1.05	20.94	4.84	.54	2.42	9.60	90		1.21
Gonorrhea.....	32.62			1.72	53.82	.84		3.37	40.19	.30		2.46
All venereal diseases.....	55.92			3.81	138.86	5.39	.54	10.43	81.49	1.29		4.59
Alcoholism and direct results.....	59.11		1.27	.75	30.88			.28	25.79		.90	.44
Neuralgia.....	20.09	.42		.67	17.76			.21	24.60			.91
Tonsillitis.....	53.21			1.00	27.09			.38	52.79			.93
Colic and constipation.....	20.56	.42		.91	36.08			.87	23.70			.25
Diarrheal diseases.....	51.10			.41	197.52		1.61	2.16	73.48			.84
Diseases of the heart.....	4.33	.84	.42	.50	4.84	2.15		.45	3.60	1.20		.41
Coryza.....	40.12			.43	15.61			.12	46.48			.54
Bronchitis.....	48.14			.64	44.67			.52	41.90			.63
Pneumonia.....	6.33		.84	.90	2.69			.29	2.40		.90	.27
Diseases of the kidneys.....	2.53		.42	.39	1.09			.14	.90	.30		.41
Rheumatism and myalgia.....	84.88			3.11	78.58	1.08		3.29	83.59	.60		3.65
Bolls and abscesses.....	31.25			.69	63.51			1.16	26.40			.30
Conjunctivitis.....	13.09			.28	17.22			.36	9.90	.30		.30
All diseases of the eye.....	20.69			.91	24.22	3.23		1.47	14.10	.60		.44
All diseases of the ear.....	3.80		.84	.16	10.76			.28	5.10	.60		.28
Contusions and sprains.....	142.31			3.11	124.33		.54	2.68	112.18			2.67
Dislocations.....	2.96			.13	2.15			.29	1.20			.04
Fractures, not gunshot.....	7.18	.42	.42	1.22	6.92	1.08		1.29	5.40	.30		.78
Wounds, not gunshot.....	63.77			1.81	60.28			1.39	53.90	.90	.30	1.64
Wounds, gunshot.....	3.80	.43		.64	3.77		1.08	.35	3.60	.90	.30	1.21
GROUPED.												
Infectious diseases, general and local.....	181.59	.42	2.53	8.25	439.18	9.15	5.92	23.63	232.15	2.70	1.20	11.17
Local infections (also entered under diseases of organs).....	138.08		.42	3.58	150.16		1.08	3.31	117.58		.90	2.35
Diseases of nutrition, general.....	1.60	.42		.14	1.61	1.08		.14	1.50	.30		.11
Diseases of the nervous system.....	97.97	1.27	1.60	3.27	72.08	1.08	1.08	.85	65.69	.90	1.50	2.09
Diseases of the digestive sys- tem.....	239.02	.42		3.73	354.58	.54	2.15	6.00	221.66	.30	.30	3.40
Diseases of the circulatory system.....	5.49	.84	.84	.60	5.92	2.15	.54	.49	4.20	1.20		.43
Diseases of the respiratory organs.....	103.89	.42	.84	2.58	75.89			1.11	96.83	.30	.90	1.71
Diseases of the genito-urinary system.....	10.98		.42	.99	13.46	1.61		1.09	6.60	.60		.71
Diseases of the lymphatic sys- tem and ductless glands.....	3.38			.46	5.02			.43	4.20			.18
Diseases of the muscles, bones and joints.....	95.44	.84		3.67	89.34	1.61		3.40	85.98	1.60		3.09
Diseases of the integument and subcutaneous connective tis- sue.....	63.34			1.58	111.95			2.42	53.39			.99
Diseases of the organs of spe- cial sense.....	25.76		.84	1.10	35.54	3.23		1.76	19.80	1.20		.73
Unclassified.....	42			.01	1.01			.02	2.43			.04
General injuries.....	2.51		1.69	.04	10.76	.54	2.69	.34	1.50		.30	.01
Injuries to special parts.....	277.87	2.11	.42	8.77	252.42	3.23	1.61	8.31	237.85	4.50	.60	8.04
Total for diseases.....	838.97	4.05	7.18	25.41	1,207.75	20.45	9.69	41.62	774.45	9.30	1.90	24.65
Total for injuries.....	280.41	2.11	2.11	8.81	263.19	3.77	4.31	8.65	239.35	4.50	.90	8.04
Total for all causes.....	1,119.38	6.16	9.29	34.22	1,470.94	24.22	13.99	50.27	1,013.80	13.80	2.80	32.70

TABLE XII.—*Ratios of admission to sick report, discharge, death, and constantly non-effective of the Army and of the troops in the several departments for the year as compared with the ratios for the decade 1883-1892—Continued.*

For the year 1894.....	Department of the East.				Department of the Missouri.				Department of Dakota.			
Mean strength.....	7,252.				4,110.				3,511.			
Causes of admission to sick report.	Admissions.	Discharges.	Deaths.	Constantly non-effective.	Admissions.	Discharges.	Deaths.	Constantly non-effective.	Admissions.	Discharges.	Deaths.	Constantly non-effective.
SPECIAL.												
Vaccinia.....	57.35			1.68	82.86			.53	14.68			.76
Typhoid fever.....	3.17		.69	.53	9.48		1.46	1.45	1.99		.12	.13
Malarial infections.....	108.21		14	2.17	79.32			2.19	19.37			.65
Rheumatic fever.....	4.96			.63	4.83			.43	2.85			.36
Tuberculosis of the lungs.....	3.31	2.07	.69	.69	2.92	1.85		.74	2.58	1.98	.57	.51
Syphilis.....	15.72	1.28		1.63	12.65	1.23		1.05	7.12	.28		1.02
Gonorrhea.....	51.85			2.94	61.29	.24		3.42	36.74			1.88
All venereal diseases.....	95.15	1.38		6.24	96.50	1.46		3.79	55.62	.28		1.47
Alcoholism and direct results.....	30.27		.14	.43	20.92			.22	22.23		.28	.33
Neuralgia.....	18.41	.28		.40	13.87			.25	16.52			.46
Tonsillitis.....	32.54			.55	37.47			.49	47.85			.77
Colic and constipation.....	26.89			.29	21.90			.17	26.20			.65
Diarrheal diseases.....	87.98			.78	133.58	.24		1.44	82.03			.33
Diseases of the heart.....	4.14	.65	.69	.19	3.05	.24	.79	.15	2.56	2.23		.34
Coryza.....	40.68			.34	25.79			.21	39.30			.35
Bronchitis.....	34.34	.28		.61	26.78			.55	25.35			.65
Pneumonia.....	3.45		1.24	.21	2.68	.24		.41	3.85		.57	.16
Diseases of the kidneys.....	1.24	.41		.12	1.70		.49	.29	.85	.23		.17
Rheumatism and myalgia.....	68.12	1.93		2.49	55.96			1.70	51.27	.28		1.73
Sores and abscesses.....	40.15			.63	52.55			1.07	28.91			.56
Carbuncles.....	7.45			.81	12.66	.24		.38	7.97	.28		.34
All diseases of the eye.....	14.62	1.28		.70	21.41	1.49		.83	16.80	.28		.64
All diseases of the ear.....	5.38	.14		.15	7.08	.49		.25	4.37	.28		.19
Contusions and sprains.....	110.11	.28		2.92	170.89	.49		4.31	119.34			2.79
Lacerations.....	1.93			.05	2.69	.24		.41	2.56	.57		.28
Fractures, not gunshot.....	4.69	.41	.28	.67	9.25	.49		1.34	7.12	.57		1.53
Wounds, not gunshot.....	49.78	.14		1.21	49.15			.96	57.25			1.78
Wounds, gunshot.....	1.93	.41	.83	.18	4.87	.24	1.46	.84	3.12	.28	1.42	.31
GROUPED.												
Infectious diseases, general and local.....	305.55	3.45	1.79	14.58	274.45	3.41	1.46	12.46	106.62	3.22	1.42	7.02
Local infections (also entered under diseases of organs).....	118.93		1.24	2.96	131.14	.73		3.35	112.36		.47	2.61
Diseases of nutrition, general.....	1.38	.41		.09	1.76		.24	.11	.28	.28		.01
Diseases of the nervous system.....	78.87	1.52	.83	1.70	50.85	.73	.49	1.06	55.54	.87	.57	1.86
Diseases of the digestive system.....	238.28	.41	.69	3.45	259.61	.97	.26	3.86	218.31	1.14		2.44
Diseases of the circulatory system.....	5.38	.65	.83	.31	4.38	.24	.73	.23	3.79	2.99		.62
Diseases of the respiratory organs.....	84.80	.41	1.36	1.72	59.37	.73		1.58	72.68	.87	.97	1.74
Diseases of the genito-urinary system.....	10.20	.65		.63	9.52	.73	.49	.95	10.64	.28		.64
Diseases of the lymphatic system and of the glands.....	4.55			.42	5.84			.68	2.96			.11
Diseases of the muscles, bones and joints.....	71.57	2.07		2.35	61.07	.73		1.68	60.10	1.89		2.23
Diseases of the integument and subcutaneous connective tissue.....	80.53			1.61	86.86			1.86	54.66			1.74
Diseases of the organs of special sense.....	21.79	1.52		.81	39.17	1.86		1.26	23.04	.85		1.88
Unclassified.....	2.78			.03	8.41			.04	1.14			.03
General injuries.....	2.44	.14	.69	.06	4.38	.24	.49	.15	1.71		1.14	.01
Injuries to special parts.....	221.44	2.34	1.10	6.47	276.16	3.43	1.70	8.99	240.11	3.79	1.71	6.23
Total for diseases.....	665.60	10.89	5.62	28.00	846.23	9.49	3.65	25.18	570.75	10.54	2.85	20.56
Total for injuries.....	223.52	2.48	1.79	6.53	280.54	2.68	2.19	9.11	241.81	3.79	2.85	6.23
Total for all causes.....	1,189.19	13.36	7.31	34.53	1,126.76	12.17	5.84	34.29	812.56	14.33	5.70	26.79

TABLE XII.—*Ratios of admission to sick report, discharge, death, and constantly non-effective of the Army and of the troops in the several departments for the year, as compared with the ratios for the decade 1883-1892—Continued.*

For the year 1894	Department of California.				Department of the Columbia.			
Mean strength.....	1,460.				1,445.			
Causes of admission to sick report.	Admissions.	Discharges.	Deaths.	Constantly non-effective.	Admissions.	Discharges.	Deaths.	Constantly non-effective.
SPECIAL.								
Vaccinia.....	13.01			.36	6.92			.16
Typhoid fever.....	4.11			.50				
Malarial infections.....	145.89			2.60	26.30			.98
Rheumatic fever.....	1.37			.10	3.46			.13
Tuberculosis of the lungs.....	2.74	.68	.68	.44	2.08			.35
Syphilis.....	13.70	1.37		.91	2.08	1.38		.19
Gonorrhea.....	41.78	.68		2.54	28.37			1.51
All venereal diseases.....	73.29	2.05		4.52	38.76	1.38		2.58
Alcoholism and direct results..	26.03			.23	24.91			.36
Neuralgia.....	10.27			.20	13.84			.66
Tonsillitis.....	15.07			.20	38.06			.66
Colic and constipation.....	12.33			.09	15.92			.21
Diarrheal diseases.....	78.77			.71	55.86			.44
Diseases of the heart.....	4.79	.68	.68	.11	4.15	.69	.69	.66
Coryza.....	14.38			.11	13.84			.12
Bronchitis.....	50.00			1.17	38.76			.54
Pneumonia.....	6.85			.55	2.08		1.38	.16
Diseases of the kidneys.....	2.74	.68		.41	1.88			.27
Rheumatism and myalgia.....	58.90	.68		3.22	38.76			1.11
Boils and abscesses.....	21.92			.66	22.84			.53
Conjunctivitis.....	6.16			.16	10.38			.35
All diseases of the eye.....	14.38			1.19	14.53	1.38		.64
All diseases of the ear.....	5.48			.18	2.08			.09
Contusions and sprains.....	118.49			3.02	105.19	.69		2.42
Dislocations.....	4.11			.28	4.15			.27
Fractures, not gunshot.....	6.16			1.15	3.46			.65
Wounds, not gunshot.....	43.84			1.02	40.14	1.38		1.68
Wounds, gunshot.....	5.48	1.37		1.09	8.40	1.38	.69	.65
GROUPED.								
Infectious diseases, general and local.....	284.93	2.74	2.05	9.29	92.78	2.08		4.85
Local infections (also entered under diseases of organs)....	96.58	.68		2.92	103.11	.69	1.38	2.25
Diseases of nutrition, general..	2.05	1.37		.20	.69			.15
Diseases of the nervous system.	43.15	2.05	.68	.87	60.21	.69	1.38	1.70
Diseases of the digestive system.....	162.33	.68		2.48	172.32			2.73
Diseases of the circulatory system.....	5.48	.68	.68	.33	4.84	.69	.69	.47
Diseases of the respiratory organs.....	73.97			1.98	62.29	.69	1.38	1.49
Diseases of the genito-urinary system.....	9.59	1.37		.99	11.07	.69		.87
Diseases of the lymphatic system and ductless glands.....	.68			.08	2.08			.08
Diseases of the muscles, bones and joints.....	63.01	1.37		3.57	43.60	.69		1.96
Diseases of the integument and subcutaneous connective tissue.....	62.33			1.49	42.91			.95
Diseases of the organs of special sense.....	20.55			1.44	17.30	1.38		1.17
Unclassified.....	4.11			.15	2.77			.04
General injuries.....	4.79		3.42	.04	2.77		2.46	.04
Injuries to special parts.....	221.23	2.05		7.79	197.92	4.84	.69	7.14
Total for diseases.....	732.19	10.27	3.42	22.86	512.80	6.92	3.46	16.34
Total for injuries.....	226.03	2.05	3.42	7.82	200.60	4.84	4.15	7.18
Total for all causes.....	958.22	12.33	6.85	30.68	713.49	11.76	7.61	23.56

TABLE XIII.—Distribution of specific febrile diseases, etc., at United States military posts during the year 1894.—Continued.

Name of station.	Specific febrile and acute infectious diseases, excluding influenza, erysipelas, and tonsillitis.										Total.	Ratios per 1,000 of mean strength.	Influenza.	Erysipelas.	Tonsillitis, including quinsy.	Aggregate.	Ratio per 1,000 of mean strength.
	Cerebrospinal fever.	Chikén pox.	Dengue.	Diphtheria.	Enteric, including typhoid and typhus fever.	Malaria.	Mumps.	Scarlet fever.	Smallpox.	Whooping cough.							
Fort Mary, N. Mex.											1	32.97				1	32.97
Fort Meyer, Va.					1							11.95				1	11.95
Fort Wingate, N. Mex.					1							4.71				1	4.71
Dixie Island, N. Y.					2							5.05				2	5.05
Fort Reno, Okla.					1							7.19				1	7.19
Fort Reno Barracks, Mo.					1							6.12				1	6.12
Fort Brown, Tex.					2							16.07				2	16.07
Frankford Arsenal, Pa.					1							46.82				1	46.82
Fort Brady, Mich.					1							11.88				1	11.88
Fort Grant, Ariz.					1							2.41				1	2.41
Fort Ashtabula, Mont.					1							2.25				1	2.25
Waterfall Arsenal, N. Y.					1							16.40				1	16.40
Fort Huachuca, Ariz.					1							2.82				1	2.82
Fort Wadsworth, N. Y.					1							5.44				1	5.44
Fort McKinney, Wyo.					1							4.05				1	4.05
Fort Kingold, Tex.					1							6.02				1	6.02
Jackson Barracks, La.					1							6.36				1	6.36
Angel Island, Cal.					1							3.03				1	3.03
San Carlos, Ariz.					1							6.85				1	6.85
Fort Missoula, Mont.					1							4.39				1	4.39
Fort Sherman, Idaho.					1							2.50				1	2.50
Fort Schuyler, N. Y.					1							6.00				1	6.00
Fort Porter, N. Y.					1							6.77				1	6.77
Newport Barracks, Ky.					1							18.61				1	18.61
Fort Pembina, N. Dak.					1							16.67				1	16.67
Field.					4							12.83				4	12.83
Willets Point, N. Y.					1							12.83				1	12.83
Springfield Armory, Mass.					1							12.83				1	12.83
Fort Hamilton, N. Y.					1							12.83				1	12.83
Fort Sully, S. Dak.					1							12.83				1	12.83
Fort Warren, Mass.					1							12.83				1	12.83
Fort Walla Walla, Wash.					1							12.83				1	12.83
Fort Barrancas, Fla.					1							12.83				1	12.83

TABLE XIV.—Twenty posts giving the highest admission rates for malarial diseases, rheumatism, diarrheal and venereal diseases, respectively, during 1894.

I.—MALARIAL DISEASES.

Name of station.	Mean strength.	Ratios per 1,000 of mean strength.			
		Admissions.	Discharges.	Deaths.	Constantly non-effective.
Washington Barracks, D. C	316	598.10	.....	.....	9.07
Fort Myer, Va.	251	573.71	.....	.....	7.45
Fort Hamilton, N. Y	268	343.30	.....	.....	2.68
Fort Brown, Tex	120	316.67	.....	.....	8.70
Presidio of San Francisco, Cal	478	276.15	.....	.....	5.88
Fort Reno, Okla.	278	251.80	.....	.....	6.16
Fort Sill, Okla.	315	250.79	.....	.....	5.91
Fort Stanton, N. Mex	105	228.57	.....	.....	3.57
Camp Eagle Pass, Tex	61	196.72	.....	.....	5.52
San Carlos, Ariz.	144	180.58	.....	.....	20.09
Fort Bliss, Tex	293	146.76	.....	.....	2.95
Fort Wadsworth, N. Y	184	146.74	.....	5.43	5.20
Fort Clark, Tex	357	142.86	.....	2.80	11.12
Alcatraz Island, Cal	114	140.35	.....	.....	1.87
Fort Monroe, Va	512	138.68	.....	.....	3.55
Fort McHenry, Md.	181	132.60	.....	.....	1.92
Fort Sam Houston, Tex	547	109.70	.....	.....	2.32
Fort Huachuca, Ariz	301	102.99	.....	.....	2.35
Fort Meade, S. Dak	399	102.75	.....	.....	2.22
Fort Walla Walla, Wash	197	96.45	.....	.....	1.42
The Army	25,376	74.72	.....	.07	1.88

II.—RHEUMATISM.

Sandy Hook, N. J.	69	173.91	14.49	.....	4.37
Watervliet Arsenal, N. Y	61	163.94	.....	.....	4.13
West Point, N. Y	384	145.84	.....	.....	3.16
San Diego Barracks, Cal	71	140.85	14.08	.....	7.68
Rock Island Arsenal, Ill	64	140.02	.....	.....	2.78
Fort Myer, Va	251	119.53	.....	.....	3.25
Fort Porter, N. Y	114	114.04	8.77	.....	1.20
St. Francis Barracks, Fla	145	110.35	.....	.....	1.42
Fort McIntosh, Tex	170	105.88	.....	.....	3.74
Fort Preble, Me	67	104.48	.....	.....	4.78
Fort Omaha, Nebr	498	104.42	.....	.....	3.68
Fort Bliss, Tex	293	98.97	3.41	.....	5.66
Fort Marcy, N. Mex	91	98.89	.....	.....	4.15
Fort Wingate, N. Mex	354	93.22	.....	.....	6.08
Key West Barracks, Fla	119	92.43	8.40	.....	4.10
Fort Apache, Ariz	190	89.47	.....	.....	3.53
Fort Niobrara, Nebr	387	87.85	.....	.....	3.75
Fort D. A. Russell, Wyo	411	87.59	.....	.....	3.17
Washington Barracks, D. C	316	85.44	8.16	.....	3.02
Fort Logan, Colo	415	84.34	.....	.....	2.89
The Army	25,376	63.33	.87	.....	2.77

III. DIARRHEAL DISEASES.

Camp Eagle Pass, Tex	61	426.23	.....	.....	4.94
Fort Hancock, Tex	59	389.83	.....	.....	2.46
Fort Clark, Tex	357	361.34	.....	5.60	2.98
Fort Sheridan, Ill	729	262.00	1.37	.....	2.99
Sandy Hook, N. J	69	231.89	.....	.....	1.83
Key West Barracks, Fla	119	226.69	.....	.....	2.44
Fort Columbus, N. Y	188	207.46	.....	.....	1.47
Fort McHenry, Md	181	171.27	.....	.....	1.33
Fort Bliss, Tex	293	170.65	.....	.....	2.05
Fort Wingate, N. Mex	354	163.84	.....	.....	1.69
Fort Keogh, Mont	435	154.02	.....	.....	1.64
Jefferson Barracks, Mo	327	152.01	.....	.....	1.28
Fort Sam Houston, Tex	547	146.25	.....	.....	1.07
St. Francis Barracks, Fla	145	144.83	.....	.....	.86
Fort Myer, Va	251	139.45	.....	.....	1.68
Fort Walla Walla, Wash	197	137.06	.....	.....	1.24
Fort Schuyler, N. Y	125	136.00	.....	.....	.77
Willeys Point, N. Y	413	123.49	.....	.....	.96
Fort Spokane, Wash	136	117.65	.....	.....	1.07
Fort Leavenworth, Kans	705	116.32	.....	.....	1.14
The Army	25,376	94.77	.04	.11	.94

TABLE XVI.—Prevalence of alcoholism at the various posts, and its influence on the effective force of the garrisons, for the year 1894.

Name of station.	Mean strength.	Ratio per 1,000 of mean strength.		Name of station.	Mean strength.	Ratio per 1,000 of mean strength.	
		Admissions.	Constantly non-effective.			Admissions.	Constantly non-effective.
Fort Ontario, N. Y.	53	339.62	3.77	Fort Meade, S. Dak.	390	30.08	.26
Fort Proble, Me.	67	119.27	1.27	Fort Mason, Cal.	67	20.85	.14
Fort Brady, Mich.	169	112.43	1.30	Fort Yellowstone, Wyo.	102	29.41	.38
Fort Sidney, Nebr.	94	106.38	1.92	Columbus Barracks, Ohio.	524	23.63	.48
Fort Pembina, N. Dak.	60	140.00	1.23	Fort Meyer, Va.	251	27.69	.98
Willels Point, N. Y.	413	92.01	1.01	Fort Bliss, Tex.	293	27.31	.18
Fort Wood, N. J.	41	97.46	.27	Fort Columbus, N. Y.	188	26.60	.66
Fort Omaha, Nebr.	498	88.35	.99	Alcatraz Island, Cal.	314	26.32	.19
Fort D. A. Russell, Wyo.	413	77.89	1.07	Fort Porter, N. Y.	114	26.32	.17
Washington Barracks, D. C.	319	72.79	.72	Boies Barracks, Idaho.	117	25.64	.26
Fort Kingdome, Tex.	166	72.28	.94	Madison Barracks, N. Y.	396	25.25	.28
Fort Niobrara, Nebr.	387	69.77	.90	Fort Assiniboine, Mont.	445	24.72	.17
Fort Douglas, Utah.	462	69.27	1.09	Fort Sherman, Idaho.	303	23.10	.49
Fort Wadsworth, N. Y.	184	65.32	.79	Fort Niagara, N. Y.	217	23.04	.21
Rock Island Arsenal, Ill.	64	62.56	.64	Presidio of San Francisco, Cal.	478	23.01	.21
Fort Spokane, Wash.	130	58.82	1.15	Fort Thomas, Ky.	400	22.50	.38
Fort McIntosh, Tex.	170	58.82	.63	Fort Leavenworth Military Prison, Kans.	135	22.22	.20
Newport Barracks, Ky.	61	58.82	.30	Fort Sam Houston, Tex.	547	2.94	.18
Sandy Hook, N. J.	69	57.97	.32	Fort Missoula, Mont.	228	21.93	.12
Fort Washakie, Wyo.	125	56.00	.39	Angel Island, Cal.	283	21.29	.21
Fort Walla Walla, Wash.	197	55.84	.61	Fort Leavenworth, Kans.	705	19.86	.22
Fort Logan, Colo.	415	55.42	.42	Jefferson Barracks, Mo.	327	18.35	.12
St. Francis Barracks, Fla.	145	55.17	.38	Fort Grant, Ariz.	263	17.06	.15
Mount Vernon Barracks, Ala.	149	53.69	.77	Jackson Barracks, La.	121	16.53	.10
Fort Barrancas, Fla.	131	51.44	.67	Watervliet Arsenal, N. Y.	61	16.39	.22
Fort McKinney, Wyo.	247	52.63	.58	Devils Island, N. Y.	308	16.30	.22
Fort Hancock, Tex.	59	50.85	.33	Fort Sill, Okla.	315	15.87	.12
Columbia Arsenal, Tenn.	20	50.00	.55	Fort Apache, Ariz.	100	15.70	.17
Camp Eagle Pass, Tex.	61	49.18	.63	Fort Monroe, Va.	512	14.61	.16
Fort Warren, Mass.	125	48.00	.85	Fort Clark, Tex.	657	14.01	.11
Frankford Arsenal, Pa.	46	46.51	.89	Fort Robinson, Nebr.	453	13.25	.25
Fort McHenry, Md.	181	44.19	.42	Fort Reno, Okla.	278	13.79	.63
Fort Murey, N. Mex.	91	43.90	.48	Fort Bowie, Ariz.	93	10.75	.06
San Diego Barracks, Cal.	71	42.25	.46	Fort Keogh, Mont.	435	9.20	.82
Fort Hamilton, N. Y.	268	41.05	.43	Fort Canby, Wash.	117	8.85	.02
Fort Schuyler, N. Y.	125	40.00	.39	Fort Wingate, N. Mex.	354	8.47	.12
Denver, Colo.	25	41.00	.22	Key West Barracks, Fla.	113	8.40	.05
Fort Adams, R. I.	277	39.71	.37	San Carlos, Ariz.	144	6.91	.66
Fort Mackinac, Mich.	52	38.46	.37	Vancouver Barracks, Wash.	437	6.87	.21
Bentley Barracks, Cal.	209	38.28	.39	Fort Huachuca, Ariz.	301	6.64	.04
Fort Ethan Allen, Vt.	58	34.48	.24	Fort Bayard, N. Mex.	328	6.10	.27
Fort Yates, N. Dak.	262	34.35	.59	Fort Riley, Kans.	643	4.67	.03
Plattsburg Barracks, N. Y.	204	34.32	.42	Fort Wayne, Mich.	233	4.20	.02
Fort Sully, S. Dak.	140	34.25	.45	Fort Buford, N. Dak.	287	3.48	.02
Fort Brown, Tex.	120	33.33	.32	Fort McPherson, Ga.	346	2.89	.01
Fort Sheridan, Ill.	729	32.62	.42	West Point, N. Y.	394	2.60	.03
Whipple Barracks, Ariz.	216	32.52	1.07	Field	1,391	0.67	.59
Allegheny Arsenal, Pa.	32	31.25	.26				
Fort Townsend, Wash.	64	31.25	.21				
Fort Snelling, Minn.	492	30.49	.43				
				The Army	25,376	30.94	.39

TABLE XV.—Twenty posts giving the highest noneffective rates for malarial diseases, rheumatism, diarrheal and venereal diseases, etc.—Continued.

II—RHEUMATISM.

Name of station.	Mean strength.	Constantly noneffective per 1,000 of mean strength.	Average number of sick daily.	Average number of days each case was treated.
San Diego Barracks, Cal.....	71	7.68	0.55	19.90
Camp Eagle Pass, Tex.....	61	7.59	.46	33.80
Fort Wingate, N. Mex.....	354	6.68	2.36	26.15
Alcatraz Island, Cal.....	114	6.49	.74	270.00
Fort Bliss, Tex.....	293	5.66	1.66	20.26
Fort Preble, Me.....	67	4.78	.32	16.71
Whipple Barracks, Ariz.....	246	4.77	1.17	53.50
Presidio of San Francisco, Cal.....	478	4.69	2.24	24.06
Fort Leavenworth Military Prison, Kans.....	135	4.65	.63	76.23
Sandy Hook, N. J.....	69	4.57	.32	9.56
Jackson Barracks, La.....	121	4.21	.51	18.66
Fort Marcy, N. Mex.....	91	4.15	.38	15.33
Watervliet Arsenal, N. Y.....	61	4.13	.25	9.26
Key West Barracks, Fla.....	119	4.10	.49	16.18
Fort Huachuca, Ariz.....	301	3.93	1.18	25.41
Fort Myer, Va.....	251	3.85	.97	11.77
Fort Niobrara, Nebr.....	387	3.75	1.45	15.59
Fort McIntosh, Tex.....	170	3.74	.64	12.89
Fort Omaha, Nebr.....	498	3.68	1.83	12.85
Fort Warren, Mass.....	125	3.68	.46	16.20
The Army.....	25,376	2.77	70.82	15.97

III.—DIARRHEAL DISEASES.

Camp Eagle Pass, Tex.....	61	4.94	.30	4.23
Fort Clark, Tex.....	357	3.98	1.42	4.07
Fort McIntosh, Tex.....	170	3.30	.56	11.39
Fort Sheridan, Ill.....	729	2.99	2.18	4.17
Fort Marcy, N. Mex.....	91	2.95	.27	14.00
Fort Bowie, Ariz.....	93	2.53	.24	12.29
Fort Hancock, Tex.....	59	2.46	.15	2.36
Key West Barracks, Fla.....	119	2.44	.29	3.93
Fort Reno, Okla.....	278	2.18	.61	17.06
Fort Bliss, Tex.....	293	2.05	.60	4.22
Sandy Hook, N. J.....	69	1.83	.13	2.86
Fort Wingate, N. Mex.....	354	1.69	.60	2.77
Fort Myer, Va.....	251	1.66	.42	4.34
Fort Keogh, Mont.....	435	1.64	.71	3.82
Fort Columbus, N. Y.....	188	1.47	.28	2.59
Fort Ringgold, Tex.....	166	1.40	.23	5.67
Fort Walla Walla, Wash.....	197	1.38	.27	3.67
Fort McHenry, Md.....	181	1.33	.24	2.65
Jefferson Barracks, Mo.....	327	1.26	.41	3.00
Jackson Barracks, La.....	121	1.20	.15	4.42
The Army.....	25,376	.94	23.97	3.64

IV. VENEREAL DISEASES.

Columbus Barracks, Ohio.....	524	24.86	13.02	30.10
Fort Hancock, Tex.....	59	23.36	1.38	41.92
Fort Ringgold, Tex.....	166	22.84	3.79	24.28
Camp Eagle Pass, Tex.....	61	20.03	1.22	26.24
Fort Leavenworth Military Prison, Kans.....	135	16.80	2.27	48.71
Fort McIntosh, Tex.....	170	15.34	2.61	26.45
Fort Clark, Tex.....	357	13.31	4.75	30.42
Jackson Barracks, La.....	121	12.91	1.56	22.81
Fort Brown, Tex.....	120	10.57	1.27	33.07
Fort Preble, Me.....	67	10.14	.68	24.30
Fort Douglas, Utah.....	462	9.56	4.42	25.19
Fort Thomas, Ky.....	400	9.15	3.66	21.53
Alcatraz Island, Cal.....	114	8.87	1.01	26.36
Fort Sill, Okla.....	315	8.76	2.76	28.77
Fort Schuyler, N. Y.....	125	8.64	1.08	39.40
St. Francis Barracks, Fla.....	145	8.54	1.24	18.02
Washington Barracks, D. C.....	316	8.48	2.68	24.45
Fort Supply, Okla.....	180	8.36	1.50	20.32
Fort Reno, Okla.....	278	8.09	2.25	24.88
San Diego Barracks, Cal.....	71	7.72	.55	23.57
The Army.....	25,376	5.32	134.96	24.14

TABLE XVII.—The relations of certain diseases and classes of disease to the several arms of the service and to the age, nativity and length of service of individuals in average annual ratios per thousand of mean strength for the period 1890-1894, inclusive.

Causes of admission to sick report.	Total.	Arms of service.							Ages (years).										
		Infantry.	Cavalry.	Artillery.	Ordnance.	Engineers.	Medical Department.	All others.	19 and under.	20 to 24.	25 to 29.	30 to 34.	35 to 39.	40 to 44.	45 to 49.	50 to 54.	55 to 59.	60 and over.	
SPECIAL.																			
Vaccina:																			
Admissions—																			
Officers.....	1.62	2.35	.67	3.06			1.56			5.57	5.80	.89		1.15		.97			
Enlisted.....	46.17	24.37	24.96	41.73	7.45	55.07	3.41	200.75	227.51	105.84	33.38	11.34	6.07	8.67	2.71	4.38			13.51
Non-effective—																			
Officers.....	.02			.03			.04			.09	.05	.01		.02		.01			
Enlisted.....	1.34	.73	.50	1.38	.10	1.24	.05	6.63	6.21	3.11	.94	.28	.17	.07	.05	.08			.37
Discharges—																			
Enlisted.....																			
Deaths—																			
Officers.....																			
Enlisted.....																			
Typhoid fever:																			
Admissions—																			
Officers.....	3.11	2.69	5.39	5.09		4.90				8.36	8.29	5.32	1.84	1.15	1.19				
Enlisted.....	5.89	6.25	8.19	4.30	6.99	.97	3.13	2.22	19.65	10.41	5.92	2.66	2.60	1.83	.58		2.83		
Non-effective—																			
Officers.....	.95	.68	1.60	2.23		1.13				2.12	2.74	1.71	.42	.46	.23				
Enlisted.....	.91	.93	1.29	.68	1.25	.26	.42	.46	2.40	1.00	.92	.47	.47	.25	.04		.08		
Discharges—																			
Enlisted.....	.02	.02			.43						.03	.05							
Deaths—																			
Officers.....	.19	.47									.58	.62							
Enlisted.....	.61	.58	.85	.67	.86		.26	.24	3.48	.95	.72	.14	.00	.36	.18		2.61		
Malarial infections:																			
Admissions—																			
Officers.....	39.51	40.67	61.36	53.97	4.98	9.80	31.15	2.86		50.14	65.45	46.14	27.57	19.63	45.13	28.16	37.80	21.19	
Enlisted.....	80.14	53.96	109.50	138.76	61.95	73.58	43.82	65.27	145.13	121.72	77.00	57.14	48.17	46.11	43.50	33.19	17.00	40.54	
Non-effective—																			
Officers.....	1.78	1.48	2.38	2.18	.07	.28	4.48	.16		.97	2.89	2.04	1.77	1.60	1.56	1.49	1.18	.49	
Enlisted.....	2.12	1.68	2.83	2.84	1.47	1.28	1.33	1.95	3.42	3.40	2.02	1.44	1.15	1.05	.87	1.05	1.11	.41	
Discharges—																			
Enlisted.....	.07	.07	.03	.06			.26	.16	.70	.11	.05			.12		.58			
Deaths—																			
Officers.....	.09		.47								.58								
Enlisted.....	.08	.14	.03	.06						.08	.08	.09	.09	.12					
Rheumatic fever:																			
Admissions—																			
Officers.....	4.47	4.71	4.05	7.13	4.96		3.12	4.29		2.79	3.31	3.55	1.84	8.08	5.94	5.83	3.15	8.47	
Enlisted.....	5.11	5.20	4.68	4.23	3.26	7.80	7.97	5.13	8.82	5.96	4.40	4.26	4.91	5.37	5.01	8.14	11.33		

TABLE XVII.—The relations of certain diseases and classes of disease to the several arms of the service, etc. —(Continued).

Causes of admission to sick report.	Total.	Arms of service.						Ages (years).										
		Infantry.	Cavalry.	Artillery.	Ordnance.	Engineering.	Medical Department.	All others.	19 and under.	20 to 24.	25 to 29.	30 to 34.	35 to 39.	40 to 44.	45 to 49.	50 to 54.	55 to 59.	60 and over.
SPECIAL—continued.																		
All venereal diseases—																		
Continued.																		
Non-effective—																		
Officers	.40	.31	.80	.11			.94			2.85	.85	.21	.55			.05		
Enlisted	5.50	5.18	5.50	7.33	1.23	4.18	1.24	6.84	11.97	9.55	6.61	3.44	2.05	1.13	.77	.30		
Discharges																		
Enlisted	2.04	1.91	1.82	2.38		.90	1.57	3.78	3.48	3.48	2.25	1.16	.98	.60	.50			
Deaths																		
Officers	.09						1.09						.64					
Enlisted	.01						.25					.05						
Alcoholism and direct results:																		
Admissions—																		
Officers	7.31	11.09	11.46	2.04				2.86		2.79	3.31	8.87	15.62	11.55	7.13	4.85	1.67	
Enlisted	38.55	48.86	20.97	48.95	32.14	132.07	19.63	10.17	3.02	10.04	28.54	43.64	67.04	100.77	102.67	154.04	130.31	121.62
Non-effective—																		
Officers	.13	.23	.17	.03				.03		.03	.02	.11	.24	.28	.08	.23	.02	
Enlisted	.44	.56	.25	.56	.41	1.52	.10	.11	.04	.00	.22	.44	.73	1.45	1.50	2.23	2.00	2.52
Discharges																		
Enlisted	.04	.04	.03	.06			.26				.03	.05	.09	.12	.18			
Deaths																		
Officers	.19	.23	.47								.54				.83			
Enlisted	.24	.30	.13	.18			.26				.04	.23	.16	.73	1.60	2.31	2.61	
Neuralgia:																		
Admissions—																		
Officers	25.71	37.65	23.60	18.33			26.48	11.44		11.14	22.37	18.63	23.90	33.49	24.94	32.04	18.90	72.03
Enlisted	22.30	32.00	26.87	28.15	29.34	26.80	8.54	14.60	22.68	25.44	20.45	19.41	22.35	23.18	22.43	24.80	28.33	13.51
Non-effective—																		
Officers	1.08	1.61	1.03	.37			.90	.53		.10	.36	.36	.64	1.65	.88	2.33	1.79	1.54
Enlisted	.56	.57	.58	.64	1.29	.65	.09	.34	.36	.49	.48	.49	.65	.78	1.00	1.95	.93	.30
Discharges																		
Enlisted	.14	.11	.10	.24	.86			.24		.14	.16	.05	.09	.12	.36	1.15		
Deaths																		
Officers																		
Enlisted																		
Tonsillitis:																		
Admissions—																		
Officers	20.84	27.28	24.27	19.25	19.90		18.09	2.86		27.86	38.11	27.50	22.98	16.17	13.06	12.62	4.72	4.24
Enlisted	42.65	42.38	47.27	44.45	30.74	43.86	19.02	39.12	125.47	70.43	40.93	27.49	21.96	15.59	10.05	6.89	8.50	27.03

	.08	.64	.47	.44	.39	.11	.71	.38	.09	.34	.53	.50	.36	.21	.48	.39	.10	.03
Noneffective— Officers .....	.	.38	.	.	.	.	.	.38	.09	.34	.53	.50	.36	.21	.48	.39	.10	.03
Enlisted .....	.64	.	.63	.68	.65	.43	.	.29	.71	1.07	.58	.42	.39	.26	.12	.09	.10	.70
Discharges— Enlisted .....	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Deaths— Officers .....	.	.	.	.	.	.	.	.26	.08	.03	.	.	.	.	.	.	.	.
Enlisted .....	.02	.	.	.	.	.	.	.	.	.	.03	.	.	.	.	.	.	.
Colic and constipation: Admissions—	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Officers	9.88	12.77	12.14	11.20	14.93	14.93	.	3.12	1.43	16.71	11.60	10.65	9.19	11.55	9.50	8.74	4.72	4.24
Enlisted	33.36	32.32	39.57	39.22	28.41	59.94	59.94	11.67	18.11	45.19	31.98	26.99	24.18	22.92	21.46	24.42	17.00	.
Noneffective—	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Officers .....	.10	.16	.09	.08	.08	.	.	.03	.04	.09	.10	.12	.10	.09	.08	.18	.05	.05
Enlisted .....	.30	.31	.32	.31	.30	.69	.69	.09	.17	.86	.31	.26	.25	.23	.22	.27	.09	.
Discharges— Enlisted .....	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Deaths— Enlisted .....	.02	.02	.	.	.	.45	.45	.	.	.	.03	.	.09	.	.	.	.	.
Dysentery— Officers .....	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Enlisted .....	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Diarrheal diseases: Admissions—	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Officers	56.70	65.54	76.20	76.37	29.85	19.61	19.61	28.04	5.72	75.21	67.11	45.25	44.12	77.37	52.20	62.14	40.94	46.61
Enlisted	110.36	104.43	123.73	143.52	138.36	186.16	186.16	33.86	65.95	146.28	106.12	86.43	84.68	84.09	77.02	98.31	73.65	162.16
Noneffective—	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Officers	1.01	1.04	1.27	2.07	.30	.48	.48	.23	.05	.54	2.22	.58	.35	1.11	.55	.87	1.63	.78
Enlisted	1.18	1.06	1.44	1.47	2.02	1.45	1.45	.52	.71	1.40	1.03	1.05	1.12	1.19	1.07	1.66	1.65	6.33
Discharges— Enlisted .....	.10	.05	.20	.06	.	.	.	.52	.	.08	.05	.09	.36	.12	.	.	.	.
Deaths— Officers .....	.09	.23	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Enlisted .....	.04	.05	.07	.	.	.	.	.	.	.	.08	.	.	.	.36	.	1.10	.
Diseases of the heart: Admissions—	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Officers	3.38	5.71	2.02	3.06	.	.	.	1.56	1.43	.	.	.89	1.84	5.77	3.56	6.79	6.30	12.71
Enlisted	5.21	5.97	4.38	6.22	2.79	7.80	7.80	3.70	2.99	6.54	4.38	3.76	3.85	7.20	5.80	10.64	5.66	.
Noneffective—	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Officers	1.26	2.31	1.05	.69	.	.	.	.23	.05	.	.	.002	1.08	1.47	1.67	2.49	2.97	4.18
Enlisted .....	.44	.49	.37	.58	.17	1.29	1.29	.19	.17	.56	.80	.30	.32	.82	.70	.87	.85	.
Discharges— Enlisted .....	.	.	.	.	.	.	.	.79	.39	.	.	.79	.89	2.66	2.14	5.19	5.22	.
Deaths— Officers .....	.94	.70	.94	.71	.	1.71	1.71	1.09	1.99	.	.58	.	.	.81	1.66	2.03	1.10	5.90

TABLE XVII.—The relations of certain diseases and classes of disease to the several arms of the service, etc.—Continued.

Causes of admission to sick report.	Total.	Arms of service.						Medical Department.	All other.	Ages (years).								
		Infantry.	Cavalry.	Artillery.	Ordnance.	Engineers.	10 and under.			20 to 24.	25 to 29.	30 to 34.	35 to 39.	40 to 44.	45 to 49.	50 to 54.	55 to 59.	60 and over.
SPECIAL—continued.																		
Coryza--Continued.																		
Discharges--																		
Enlisted																		
Deaths--																		
Officers																		
Enlisted																		
Bronchitis:																		
Admissions--																		
Officers	71.45	88.06	79.57	107.94	29.85	2.45	29.60	22.89		72.42	53.85	65.66	67.10	76.21	93.82	93.20	62.99	38.14
Enlisted	70.21	64.99	82.74	80.49	91.76	126.70	22.77	50.06	121.69	86.84	63.17	62.00	57.80	63.06	62.04	72.04	101.98	94.59
Non-effective--																		
Officers	2.40	2.24	3.54	2.77	3.87	.07	2.62	.87		1.01	.75	1.39	1.81	2.08	2.86	0.25	2.01	1.97
Enlisted	1.25	1.18	1.28	1.49	1.70	2.01	.59	1.16	2.45	1.50	1.06	.97	1.22	1.48	1.27	1.66	3.31	3.59
Discharges--																		
Enlisted	.16	.21	.07	.31			.26			.08	.05	.09	.53	.36	.36	1.15		
Deaths--																		
Officers																		
Enlisted	.02	.04										.06			.18			
Pneumonia:																		
Admissions--																		
Officers	2.44	2.69	2.02	2.04		2.45	3.12	2.86			.83	1.77	1.84	1.15	2.38	3.88	6.30	8.47
Enlisted	3.96	3.78	4.73	3.11	6.05	1.46	2.28	4.53	8.81	4.56	3.25	3.51	3.85	3.01	5.80	6.26	8.50	27.03
Non-effective--																		
Officers	.83	.23	.16	.32		.08	1.75	.11			.02	.20	.50	.06	.22	.89	.69	.35
Enlisted	.39	.37	.42	.36	1.15	.11	.12	.41	.69	.46	.32	.83	.43	.26	.52	.33	.51	6.00
Discharges--																		
Enlisted	.08	.05	.03							.06	.03		.09					
Deaths--																		
Officers	.66	.94	.94					1.00			.58			.81	.83	.68	2.20	2.95
Enlisted	.64	.62	.55	.24	.43	.45	1.81	1.34	.70	.50	.47	.46	.89	1.21	1.25	2.31	2.61	12.50
Diseases of the kidneys:																		
Admissions--																		
Officers	4.60	3.70	4.72	10.18			3.12	5.72				4.44	3.68	5.77	4.75	10.68	7.87	
Enlisted	1.49	1.59	1.41	.79	3.26	3.90	1.43	1.37	.76	1.22	1.01	1.20	2.12	2.23	2.71	7.51	11.33	13.51
Non-effective--																		
Officers	.97	.92	.28	1.04			.56	3.79				1.18	.08	3.20	.61	2.14	.47	
Enlisted	.16	.18	.16	.10	.11	.61	.01	.09	.03	.14	.12	.10	.32	.19	.25	.30	.91	2.26

[illegible]

TABLE XVII.—The relations of certain diseases and classes of disease to the several arms of the service, etc.—Continued.

Causes of admission to sick report.	Total.	Arms of service.						Ages (years).										
		Infantry.	Cavalry.	Artillery.	Ordnance.	Engineering.	Medical Department.	All others.	19 and under.	20 to 24.	25 to 29.	30 to 34.	35 to 39.	40 to 44.	45 to 49.	50 to 54.	55 to 59.	60 and over.
SPECIAL—continued.																		
All diseases of the eye—Continued.																		
Deaths—																		
Officers																		
Enlisted																		
All diseases of the ear:																		
Admissions—																		
Officers	3.92	3.36	4.05	8.15	9.95		3.12	1.43				5.32	7.35	3.46	5.94	3.88	1.57	
Enlisted	7.68	7.94	7.48	8.27	7.45	9.26	4.55	6.92	15.87	10.86		5.97	6.17	5.50	4.25	6.89	8.50	13.51
Non-effective—																		
Officers	.23	.30	.06	.28	1.70		.02	.05				.21	.52	.06	.07	.67	.03	
Enlisted	.33	.37	.29	.24	.21	.38	.33	.35	.30	.48		.29	.28	.17	.11	.11	.30	1.81
Discharges—																		
Enlisted	.53	.62	.52	.43			.79	.39		.62		.60	.53	.36	.53		2.01	12.50
Deaths—																		
Officers																		
Enlisted	.02	.02	.03							.03								
Contusions and sprains:																		
Admissions—																		
Officers	39.11	44.03	60.69	38.70	9.95	22.08	18.69	10.01		80.78	59.65	39.04	25.73	38.11	34.44	28.16	83.07	16.95
Enlisted	137.05	109.08	209.04	155.49	91.29	182.75	26.46	96.96	224.50	183.50	144.46	107.90	91.04	84.75	75.79	75.14	70.82	13.51
Non-effective—																		
Officers	2.27	2.23	4.04	3.12	.29	.80	.85	.30		5.12	3.99	2.47	1.70	2.09	1.90		1.67	.50
Enlisted	3.25	2.55	4.93	3.79	2.44	4.75	.58	2.27	3.89	3.87	3.21	2.89	2.65	2.85	2.74		2.21	.15
Discharges—																		
Enlisted	.19	.14	.16	.43				.31		.28	.08	.28	.18	.12	.36	.90		
Deaths—																		
Officers																		
Enlisted	.02	.02	.03							.03								
Dislocations:																		
Admissions—																		
Officers	.61	.33	2.02			4.90					.83	2.66			1.19		1.57	
Enlisted	2.44	2.13	3.64	2.65	1.40	2.44	1.14	1.28	.76	3.20	2.83	2.06	1.45	1.44	.97	1.25		
Non-effective—																		
Officers	.07	.03	.13			.49					.09	.17			.12		.14	
Enlisted	.18	.12	.36	.20	.04	.10	.03	.09	.10	.20	.23	.13	.12	.17	.18	.11		
Discharges—																		
Enlisted	.13	.04	.33	.13				.03		.14	.18	.14	.09					

Non-effective—	5.93	4.19	7.07	1.39	12.26	2.97	2.97	2.14	2.98	5.04	5.51	7.93	9.46	10.36	3.12
Officers	1.96	1.61	2.16	2.03	1.68	1.46	1.34	1.39	1.66	2.23	1.50	2.79	6.00	6.19	6.96
Enlisted	4.98	2.58	4.91	3.94	3.41	1.51	2.79	3.08	2.61	2.84	3.98	2.85	4.61	5.22	12.50
Discharges—															
Enlisted	2.37	2.51	2.18	10.42	1.71	1.90	.....	.....	1.15	1.92	.81	3.21	5.42	4.26	.....
Deaths—	.76	.66	.61	1.73	.45	.66	.....	.50	.86	.89	1.68	6.46	3.46	2.61	12.50
Diseases of the digest-															
ive system.															
Admissions—	105.40	235.89	267.97	139.31	44.12	110.89	48.64	208.91	122.67	152.57	203.70	210.21	219.45	142.09	165.26
Officers	274.33	264.91	311.92	312.65	460.63	112.88	204.51	331.10	267.55	211.34	194.49	179.81	204.16	169.97	228.79
Enlisted	7.47	8.00	5.93	1.40	2.10	10.30	8.28	.....	5.49	7.98	7.89	10.80	10.89	6.43	14.23
Discharges—	3.84	3.64	4.17	4.66	3.24	2.08	2.96	7.26	3.94	2.97	2.61	2.97	4.43	2.61	7.70
Enlisted	.66	.53	.98	.43	.90	1.31	.39	1.39	.54	.60	1.15	.19	2.88	2.61	.....
Deaths—	1.42	1.17	.....	.71	8.95	3.41	2.39	.....	.58	.82	.....	3.31	2.09	4.39	8.95
Enlisted	.37	.89	.66	1.25	.45	.26	.56	.70	.68	.60	.48	1.07	1.72	.....	12.50
Diseases of the circula-															
tory system.															
Admissions—	5.14	7.39	5.39	.....	.....	1.56	2.86	.....	.....	2.76	5.77	7.12	3.74	11.02	16.95
Officers	6.31	7.29	6.30	5.59	10.23	4.27	2.84	6.31	2.27	4.43	6.52	9.09	10.26	8.50	.....
Enlisted	1.86	2.74	2.69	.70	.....	.23	1.02	.....	.06	1.03	1.47	1.98	4.79	4.17	8.37
Discharges—	.55	.63	.48	.57	1.53	.19	.22	.36	.46	.68	1.06	1.17	1.18	1.06	.....
Enlisted	1.57	1.77	2.20	1.73	1.80	.79	.55	.70	1.00	1.24	3.92	2.50	5.77	5.22	.....
Deaths—	1.13	.94	.71	.....	1.71	2.17	1.99	.....	.58	.....	.81	1.86	2.02	2.30	8.95
Enlisted	.88	.41	.24	.43	.46	.26	.47	.....	.13	.63	1.57	1.96	2.68	2.61	.....
Diseases of the respi-															
ratory organs.															
Admissions—	125.17	151.83	139.53	183.30	54.73	17.16	44.35	.....	105.22	135.92	139.72	149.64	153.40	116.54	94.76
Officers	116.00	103.09	122.33	139.76	173.85	183.72	108.97	211.64	101.52	94.50	104.40	97.64	103.95	150.14	121.69
Enlisted	2.90	3.54	5.32	4.54	4.63	5.36	1.47	.....	2.25	2.13	2.96	5.30	2.98	3.90	2.32
Discharges—	2.38	2.33	2.44	2.54	3.69	.79	2.23	4.82	1.94	1.92	2.70	2.63	2.89	5.15	9.59
Enlisted	.47	.46	.65	.67	.90	.52	.....	.....	.36	.46	.72	.36	1.72	.....	.....
Deaths—	.68	.94	.....	.....	.....	.....	1.00	.....	.53	.....	.81	.83	.78	.....	.....
Enlisted	.76	.69	.81	.43	.45	1.31	1.63	.70	.57	.68	1.45	1.60	2.98	2.61	2.96
Diseases of the genito-															
urinary system.															
Admissions—	13.94	15.80	18.86	18.33	4.99	.....	.....	.....	10.06	10.11	9.89	9.50	12.45	14.17	25.42
Officers	10.66	11.03	10.91	10.52	10.71	11.76	7.15	.....	9.71	8.06	7.73	8.47	11.90	10.83	27.03
Enlisted							9.31	15.12							

TABLE XVII.—The relations of certain diseases and classes of disease to the several arms of the service, etc.—Continued.

Causes of admission to sick report.	Arms of service.						Ages (years).											
	Total.	Infantry.	Cavalry.	Artillery.	Ordnance.	Engineers.	Medical Department.	All others.	19 and under.	20 to 24.	25 to 29.	30 to 34.	35 to 39.	40 to 44.	45 to 49.	50 to 54.	55 to 59.	60 and over.
GROUPED—continued.																		
Infectious diseases, general and local—Continued.																		
Deaths—																		
Officers.....	2.17	1.64	3.76	2.84		1.71	1.69	1.99			1.73	2.47	1.92	3.22	2.48	.68	2.20	8.85
Enlisted.....	1.60	2.12	1.66	1.95	3.01	.90	1.31	1.50	4.18	1.94	1.69	1.62	1.07	2.54	2.67	1.15	5.22	12.50
Local infectious (also entered under diseases of organs):																		
Admissions—																		
Officers.....	113.53		138.28	156.82	49.76	7.35	60.75	31.47		142.06	130.07	118.01	102.02	113.16	131.83	104.85	81.89	76.27
Enlisted.....	167.63	150.97	210.56	187.83	163.48	200.29	61.47	138.39	373.40	239.32	156.33	128.67	114.83	107.28	104.41	104.57	133.15	162.16
Non-effective—																		
Officers.....	3.99	4.18	6.65	5.05	1.02	.15	1.95	.99		2.93	3.43	4.97	3.57	3.07	5.21	3.87	3.29	7.01
Enlisted.....	3.88	3.50	4.61	4.21	4.46	3.60	1.51	2.57	8.72	5.21	3.50	3.10	3.06	2.85	3.27	2.86	3.34	10.55
Discharges—																		
Enlisted.....	.34	.28	.49	.49		.45		.16	1.30	.42	.47	.18	.09	.12			2.61	
Deaths—																		
Officers.....	1.04	1.87	.94					1.00			.58			.81	1.66	1.35	4.39	2.95
Enlisted.....	.74	.67	.88	.18	.86	.45	1.05	1.34	1.39	.50	.65	.60	.80	1.21	1.60	2.31	2.61	12.50
Diseases of nutrition, general:																		
Admissions—																		
Officers.....	5.14	5.38	4.05	12.23	4.96		1.56	2.86			.83	.89	1.84	3.46	4.75	20.39	9.45	
Enlisted.....	1.70	1.94	1.17	1.85	.47	2.44	1.71	1.79	2.27	1.73	1.37	1.20	1.54	1.83	2.51	6.26	19.83	27.03
Non-effective—																		
Officers.....	1.41	2.06	.89	2.63	.29		.03	.36			.41	.08	.08	.38	3.59	3.86	3.88	
Enlisted.....	.13	.16	.12	.14	.01	.06	.17	.08	.36	.08	.10	.10	.15	.17	.19	.98	1.96	9.52
Discharges—																		
Enlisted.....	.47	.50	.28	.73			.79	.47		.14	.06	.37		.84	1.96	8.65	15.67	62.50
Deaths—																		
Officers.....																		
Enlisted.....	.04	.09								.03			.18		.18	.58		
Diseases of the nervous system:																		
Admissions—																		
Officers.....	66.44	92.44	62.71	51.88	18.90	4.90	76.32	24.32		36.21	53.02	71.87	72.61	84.30	67.70	74.76	40.94	88.98
Enlisted.....	86.18	96.13	74.14	109.00	66.48	197.37	62.03	50.15	74.07	70.74	69.69	84.42	113.57	156.40	146.75	209.14	195.46	189.19

Noneffective— Officers.....	6.03	5.99	6.19	7.07	.42	1.38	12.26	2.97	.....	2.14	2.39	3.86	5.04	8.51	7.95	9.46	10.23	3.12
Enlisted.....	1.90	2.05	1.61	2.10	2.63	3.03	1.46	1.45	1.34	1.39	1.50	1.88	2.23	3.30	3.79	5.09	6.12	6.96
Discharges— Enlisted.....	2.82	3.08	2.34	3.54	3.86	1.35	3.41	1.81	2.79	3.03	2.61	2.40	2.84	3.38	2.85	4.61	5.22	12.50
Deaths— Officers.....	2.17	2.81	.94	2.13	10.42	1.71	1.09	1.00	.....	.....	1.15	.62	1.92	.81	3.31	5.42	4.39	.....
Enlisted.....	.78	.88	.62	.61	1.72	.45	1.57	.55	.....	.20	.36	1.25	.89	1.69	3.03	3.46	2.61	12.50
Diseases of the digestive system: Admissions— Officers.....	195.40	238.99	235.33	237.27	139.31	44.12	110.59	48.64	.....	208.91	228.67	188.11	152.57	206.70	210.21	219.42	148.03	165.25
Enlisted.....	276.33	264.91	311.92	311.51	314.85	460.53	113.83	204.51	591.10	381.02	261.55	211.34	202.10	196.49	179.81	204.14	169.97	229.73
Noneffective— Officers.....	7.47	8.00	8.93	6.14	1.40	2.10	10.30	6.28	.....	3.37	5.69	7.93	3.69	7.89	10.30	10.89	6.43	14.28
Enlisted.....	3.84	3.64	4.43	4.17	4.86	5.24	2.03	2.98	7.36	4.83	3.34	3.18	3.57	3.61	3.37	4.42	2.91	7.70
Discharges— Enlisted.....	.69	.53	.88	.98	.43	.90	1.31	.39	1.39	.56	.54	.60	1.15	1.21	.18	2.88	2.61	.....
Deaths— Officers.....	1.42	1.17	.....	.71	6.95	3.41	2.17	2.99	.....	.....	.58	.....	.....	.....	3.31	2.08	4.39	8.85
Enlisted.....	.37	.39	.36	.06	1.29	.45	.26	.55	.70	.14	.39	.32	.36	.48	1.07	1.73	.....	12.50
Diseases of the circulatory system: Admissions— Officers.....	5.14	7.39	5.39	5.09	.....	.....	1.56	2.86	.....	2.79	.....	2.66	2.76	5.77	7.13	8.74	11.02	16.95
Enlisted.....	6.31	7.29	5.30	6.81	5.59	10.23	4.27	3.84	8.31	7.06	5.27	4.92	4.43	9.82	9.09	16.28	8.50	.....
Noneffective— Officers.....	1.86	2.74	2.69	.70	.....	.....	.23	1.02	.....	.07	.....	.38	1.09	1.47	1.93	4.79	4.17	8.37
Enlisted.....	.55	.63	.48	.63	.57	1.53	.19	.22	.36	.60	.40	.44	.38	1.08	1.17	1.16	1.06	.....
Discharges— Enlisted.....	1.57	1.77	1.37	2.20	1.72	1.80	.79	.55	.70	1.68	1.09	1.29	1.24	3.02	2.50	5.77	5.22	.....
Deaths— Officers.....	1.13	.94	.94	.71	.....	1.71	2.17	1.99	.....	.....	.58	.....	.....	.81	1.66	2.03	2.20	8.85
Enlisted.....	.38	.41	.36	.24	.43	.45	.26	.47	.....	.06	.13	.18	.53	1.57	1.96	2.88	2.61	.....
Diseases of the respiratory organs: Admissions— Officers.....	125.17	151.93	139.58	183.30	54.73	17.16	57.63	44.35	.....	125.35	105.22	103.82	125.92	139.72	149.64	153.40	116.54	84.75
Enlisted.....	115.00	108.06	122.33	129.76	178.85	183.72	35.57	108.97	211.64	146.98	101.52	99.17	94.20	104.40	97.64	108.95	150.14	121.62
Noneffective— Officers.....	3.96	3.84	5.32	4.54	4.62	.28	5.36	1.47	.....	1.42	2.28	2.13	4.06	3.59	5.30	8.89	3.50	3.32
Enlisted.....	2.36	2.32	2.44	2.54	3.89	2.63	.79	2.23	4.32	2.84	1.94	1.92	2.23	2.70	2.63	2.80	5.15	9.59
Discharges— Enlisted.....	.47	.46	.55	.67	.....	.90	.52	.....	.....	.42	.36	.46	.71	.72	.36	1.73	.....	.....
Deaths— Officers.....	.66	.94	.94	.....	.....	.....	.....	1.00	.....	.....	.58	.....	.....	.81	.83	.68	2.20	2.95
Enlisted.....	.75	.69	.75	.31	.43	.45	1.31	1.53	.70	.53	.57	.55	.98	1.45	1.60	2.88	2.61	12.50
Diseases of the genitourinary system: Admissions— Officers.....	13.94	15.80	18.88	18.33	4.98	.....	6.23	7.15	.....	11.14	19.06	15.08	10.11	6.93	9.50	18.45	14.17	25.42
Enlisted.....	10.65	11.03	10.91	10.52	10.71	11.70	7.40	9.31	15.12	14.51	9.71	8.13	8.09	7.73	9.47	11.90	19.83	27.03

Diseases of the integument and subcutaneous connective tissue:													
Admissions—	28.82	31.94	41.81	37.68	4.98	9.80	17.13	4.29					
Officers	80.12	70.13	103.65	98.42	53.56	94.05	20.49	64.25	202.57	55.71	39.77	30.17	20.22
Enlisted										121.78	74.20	55.23	48.94
Noneffective—													
Officers	1.20	1.28	2.03	1.08	.04	.64	1.05	.13		.61	1.17	1.63	.47
Enlisted	2.04	1.91	2.51	2.41	1.26	2.02	.67	1.54	4.16	2.79	1.75	1.55	1.69
Discharges—													
Enlisted	.18	.20	.20	.18		.45		.08		.25	.13	.18	.27
Deaths—													
Officers	.09		.47									.62	
Enlisted	.01		.03								.03		
Diseases of the organs of special sense:													
Admissions—													
Officers	23.68	26.56	28.32	24.44	34.83	17.16	14.02	10.01		44.57	29.00	27.51	26.65
Enlisted	28.30	29.33	34.28	24.42	23.29	43.86	11.95	17.26	44.60	37.40	26.76	23.63	21.00
Noneffective—													
Officers	3.09	2.56	3.64	3.53	14.05	.45	2.24	2.68		2.43	1.94	5.70	2.54
Enlisted	1.11	1.23	1.25	.75	.89	1.59	.80	.75	1.36	1.39	1.01	1.02	.76
Discharges—													
Enlisted	1.79	2.10	1.89	1.40	1.29	.45	1.57	1.02	.70	1.77	1.60	1.99	1.24
Deaths—													
Officers		.02	.02							.06	.03		
Enlisted			.03					.08					
Unclassified:													
Admissions—													
Officers	.27	.67								2.79			.92
Enlisted	3.16	3.40	3.21	2.51	.93	3.41	.57	3.93	10.58	5.60	2.95	1.50	2.02
Noneffective—													
Officers	.02	.06								.43			.01
Enlisted	.09	.10	.09	.06	.01	.08	.16	.08	.23	.17	.07	.04	.05
Discharges—													
Enlisted													
Deaths—													
Officers													
Enlisted	.01		.03								.03		
Total for diseases:													
Admissions—													
Officers	733.02	883.36	836.82	968.43	373.13	139.71	481.31	223.18		791.09	781.28	695.65	651.66
Enlisted	1,044.83	972.90	1,146.78	1,211.64	1,099.67	1,458.58	476.66	989.15	2,111.87	1,436.91	948.98	797.08	775.75
Noneffective—													
Officers	42.42	44.21	51.41	50.46	24.45	8.80	46.34	25.62		32.62	32.80	35.77	30.12
Enlisted	30.67	29.23	32.83	34.23	28.59	31.57	15.46	32.07	56.98	42.06	27.57	22.97	22.61
Discharges—													
Enlisted	15.42	15.85	15.75	18.86	12.45	9.43	12.07	10.87	20.91	17.45	14.15	12.35	11.72
Deaths—													
Officers	8.68	8.20	8.93	7.10	20.83	10.24	7.60	8.96			4.62	4.33	4.48
Enlisted	4.50	4.86	4.03	3.30									

TABLE XVII.—The relations of certain diseases and classes of disease to the several arms of the service, etc.—(Continued.)

Causes of admission to sick report.	Arms of service.										Ages (years).							
	Total.	Infantry.	Cavalry.	Artillery.	Ordnance.	Engineering.	Medical Department.	All other.	10 and under.	20 to 24.	25 to 29.	30 to 34.	35 to 39.	40 to 44.	45 to 49.	50 to 54.	55 to 59.	60 and over.
GROUPED—continued.																		
General inquiries:																		
Admissions—																		
Officers	3.52	4.37	4.72	6.11							2.19	4.14	6.43	2.31	3.54	1.94	4.73	4.21
Enlisted	2.98	2.96	3.21	3.04	4.19	8.28	.85	2.14	5.29	4.23	2.44	2.16	2.31	2.36	2.61	6.01	6.06	27.03
Noneffective—																		
Officers	.08	.13	.09	.08							.03	.34	.07	.03	.03	.01	.04	.01
Enlisted	.06	.06	.06	.08	.04	.13	.02	.03	.03	.06	.07	.04	.03	.07	.04	.06	.16	.70
Discharges—																		
Enlisted	.04	.05	.03	.06						.03	.05			.24				
Deaths—																		
Officers	.38	.70	.47							1.04	.54	.02					1.10	
Enlisted	1.02	1.15	.78	1.53	1.29	.90	.52	.47	2.00	1.15	.86	.92	.08	1.21	1.07	1.16	2.61	
Injuries to special parts:																		
Admissions—																		
Officers	69.01	80.00	105.87	61.10	19.00	36.76	34.27	29.03		111.42	91.06	72.76	80.86	61.67	64.13	61.06	61.42	29.66
Enlisted	250.80	226.67	373.50	282.28	181.65	340.65	55.78	101.45	425.66	342.06	298.97	280.73	187.46	174.34	148.88	164.04	184.14	144.06
Noneffective—																		
Officers	5.36	6.11	8.74	5.04	1.27	2.06	2.55	1.07		6.98	6.33	6.75	4.62	6.17	6.44	3.36	6.61	2.67
Enlisted	8.50	7.25	13.00	9.14	5.77	9.37	1.83	4.72	10.93	10.16	8.83	6.93	7.04	7.06	6.61	7.36	7.87	10.61
Discharges—																		
Enlisted	3.34	3.20	4.59	3.42	1.72	.45	1.31	2.20	5.57	4.54	3.00	2.64	2.57	2.54	2.67	2.84	5.22	
Deaths—																		
Officers	.85	.94	1.41	.71			1.00				1.73	1.24	.64	1.61			1.10	
Enlisted	1.61	1.23	3.03	1.22	2.15	1.35	.79	.63		1.51	1.60	2.03	1.74	1.33	1.78	1.15		
Total for injuries:																		
Admissions—																		
Officers	72.53	84.37	110.59	67.21	19.90	36.76	34.27	29.03		111.42	94.45	77.20	86.99	66.97	67.70	66.02	66.14	33.90
Enlisted	262.78	229.52	376.71	285.32	185.84	348.93	56.63	106.59	480.84	346.30	269.40	211.69	189.77	176.70	151.40	150.04	189.80	175.67
Noneffective—																		
Officers	5.44	6.24	8.83	5.12	1.27	2.06	2.55	1.07		5.98	6.36	7.09	4.59	5.20	5.49	3.38	6.54	2.68
Enlisted	8.56	7.31	13.06	9.23	5.82	9.51	1.85	4.75	10.96	10.22	8.90	6.97	7.07	7.12	6.65	7.46	8.02	11.22
Discharges—																		
Enlisted	3.26	3.25	4.62	3.48	1.72	.45	1.31	2.20	5.57	4.57	3.05	2.68	2.57	2.78	2.67	2.88	5.22	
Deaths—																		
Officers	1.23	1.64	1.88	.71			1.00			1.94	2.31	1.85	.64	1.61			2.20	
Enlisted	2.63	2.37	3.61	2.76	3.44	2.25	1.31	1.10	2.09	2.61	2.46	2.96	2.75	2.54	2.85	2.31	2.61	

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TABLE XVII.—The relations of certain diseases and classes of disease to the several arms of the service, etc.—Continued.

Cause of admission to sick report.	Nationalities.										Length of service (years).			
	Ameri- can, United States.	Irish.	German.	English.	Can- adian.	Scandi- navian.	Scot.	Swiss.	Aus- trian.	French.		All other.	Under one.	One and over.
SPECIAL.														
Vaccina:														
Admissions—														
Officers	1.71	27.22	19.88	24.57	45.35	41.01	24.10	22.11	30.50	16.36	23.10	16.41	1.34	
Enlisted	61.29											240.45	9.16	
Non-effective—														
Officers	.02											.44	.01	
Enlisted	1.83	.65	.15	.52	1.45	.92	.61	.53	.55	.08	.46	6.08	.32	
Discharges—														
Enlisted														
Deaths—														
Officers														
Enlisted														
Typhoid fever:														
Admissions—														
Officers	3.28	5.50	5.37	5.56	8.88	10.15	7.03	9.47	4.01	11.48	4.98	8.40	3.03	
Enlisted	5.76											11.47	4.82	
Non-effective—														
Officers	1.01											1.52	.94	
Enlisted	.90	.80	.83	.73	1.50	1.31	1.17	1.80	.45	1.55	.75	1.75	.75	
Discharges—														
Enlisted	.03											.05	.01	
Deaths—														
Officers	.20												.19	
Enlisted	.02	.72	.47	.43	1.29	1.12				.76	.42	1.55	.43	
Discharges—														
Enlisted														
Deaths—														
Officers														
Enlisted														
Malarial infections:														
Admissions—														
Officers	37.97	51.79	57.14	23.26	24.39		85.96	125.00	250.00		280.00	9.40	40.02	
Enlisted	84.34	75.10	72.51	75.11	80.96	71.46	62.25	90.53	49.76	72.14	66.12	141.18	68.53	
Non-effective—														
Officers	1.82	.90	.86	.45	.13		2.50	3.42	2.05	1.20	2.74	3.57	1.75	
Enlisted	2.26	1.88	1.91	1.90	2.61	2.02	1.09	2.74	1.05	2.37	1.70	4.17	1.73	
Discharges—														
Enlisted	.06	.07	.20						.74			.15	.06	

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TABLE XVII.—The relations of certain diseases and classes of disease to the several arms of the service, etc.—Continued.

Causes of admission to sick report.		Nativities.										Length of service (years).			
Ameri- can, United States.		Irish.	German.	English.	Can- adian.	Scandi- navian.	Scot.	Swiss.	Aus- trian.	Dane.	French.	All other.	Under one.	One and over.	
SPECIAL—continued.															
Coryza—Continued.															
Non-effective—															
Officers		.47	.08	.45	.07							.99	.16	.47	
Enlisted		.34	.23	.32	.36	.27	.21	.21	.32	.31	.23	.34	.64	.25	
Discharges—															
Enlisted															
Deaths—															
Officers															
Enlisted															
Bronchitis:															
Admissions—															
Officers		69.65	116.44	114.29	93.02	24.39	173.91				125.00	160.00	42.02	71.93	
Enlisted		75.71	98.61	53.54	70.22	65.45	99.28	61.06	44.94	43.45	79.44	59.78	107.09	63.18	
Non-effective—															
Officers		2.06	11.20	16.56	1.40	.33	4.17				5.65	8.88	1.27	2.42	
Enlisted		1.34	1.26	.85	1.23	1.13	2.45	1.17	.79	.73	1.09	1.02	1.92	1.12	
Discharges—															
Enlisted		.14	.19	.20	.43								.10	.17	
Deaths—															
Officers															
Enlisted		.01	.07											.02	
Pneumonia:															
Admissions—															
Officers		2.57												2.48	
Enlisted		4.38	3.24	3.60	3.48	4.21	5.02	3.16	.80	1.64		2.26	6.36	3.50	
Non-effective—															
Officers		.35												.34	
Enlisted		.46	.28	.30	.28	.33	.60	.25	.12	.09		.19	.67	.33	
Discharges—															
Enlisted		.05											.06	.03	
Deaths—															
Officers		.70												.67	
Enlisted		.59	.91	.75	.85	.43	.93			.76			.95	.58	
Diseases of the kidneys:															
Admissions—															
Officers		4.85												4.08	
Enlisted		1.43	1.48	1.47	1.89	3.74	1.00		1.61	.82	2.34	2.73	1.63	1.46	
Non-effective—															
Officers		1.03												.99	
Enlisted		.16	.15	.14	.10	.61	.02		.11	.03	.15	.46	.19	.15	

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Diseases of the digestive system:														
Admissions—														
Officers	195.26	164.38	171.43	302.33	121.95	289.10	217.39	625.00	239.17	246.72	250.00	320.00	67.23	197.50
Enlisted	202.19	257.86	227.90	264.49	292.68	289.10	228.90	265.26	239.17	246.72	308.41	231.43	467.60	239.87
Noneffective—														
Officers	7.51	5.35	4.15	3.38	9.29	3.77	30.37	5.82	2.71	3.77	2.91	6.79	.90	7.58
Enlisted	3.95	3.59	3.84	3.55	4.01	3.77	2.73	3.67	2.71	3.77	4.00	3.43	6.21	3.39
Discharges—														
Enlisted	.66	.65	.88	.21		.75	1.85	2.91			2.16	1.25	1.05	.62
Deaths—														
Officers	1.29	9.52												1.44
Enlisted	.28	.33	.81	.43		.37				2.27		.42	.30	.38
GROUPED.														
Diseases of the circulatory system:														
Admissions—														
Officers	4.85		14.29	23.26			43.48					40.00		5.23
Enlisted	5.99	6.98	7.28	6.03	8.88	4.47	8.03	3.16	10.43	6.56	7.01	4.53	9.13	5.78
Noneffective—														
Officers	1.66		14.13	6.50			.24					33.86		1.89
Enlisted	.50	.56	.78	.57	.60	.50	.98	.19	1.01	1.17	.40	.41	.79	.51
Discharges—														
Enlisted	1.45	1.75	1.83	1.71	1.29	1.50	2.78	.97	3.70	2.27		1.25	2.10	1.47
Deaths—														
Officers	1.19													1.15
Enlisted	.35	.78	.20	.21	.43				.74	.76	2.16		.20	.41
Diseases of the respiratory organs:														
Admissions—														
Officers	123.46	136.99	185.71	186.05	97.56		173.91				187.50	320.00	75.63	125.98
Enlisted	123.80	110.42	88.10	116.60	121.55	86.89	104.42	94.74	89.09	74.59	114.49	98.28	186.96	101.29
Noneffective—														
Officers	3.55	13.77	26.19	1.85	.80		4.17				6.16	9.86	1.50	4.00
Enlisted	2.57	2.26	1.75	2.02	2.21	1.64	3.56	1.93	2.05	1.33	2.13	1.71	3.79	2.08
Discharges—														
Enlisted	.50	.19	.75	.43	.43	.37	.93						.60	.44
Deaths—														
Officers	.70													.67
Enlisted	.70	1.04	.75	.85	.86	1.50	.93			.76			1.10	.68
Diseases of the genito-urinary system:														
Admissions—														
Officers	13.84	13.70	28.57	23.26	24.39									14.17
Enlisted	11.85	7.83	9.63	5.56	14.96	8.12	8.03	8.42	7.24	9.84	9.35	9.96	18.32	9.19
Noneffective—														
Officers	2.18	1.90	3.01	.38	.94									2.18
Enlisted	.75	.52	.75	.54	1.95	.59	.56	.77	.33	.49	.43	.88	1.15	.64
Discharges—														
Enlisted	.84	.59	.61	.64	1.72	.75		.97	.74	1.51		1.25	1.95	.57
Deaths—														
Officers	.99				16.95									1.05
Enlisted	.23	.39	.14	.21	.43	.37				.76			.15	.26

TABLE XVII.—The relations of certain diseases and classes of disease to the several arms of the service, etc.—(Continued).

Causes of admission to sick report.	Nationalities.										Length of service (years).			
	Ameri- can, United States.	Irish.	German.	English.	Can- adian.	Scandi- navian.	Scot.	Swiss.	Aus- trian.	Dane.	French.	All other.	Under one.	One and over.
SPECIAL—continued.														
Local infections (also entered under dis- eases of organs):														
Admissions—														
Officers	113.62	116.44	128.57	93.02	48.78	.....	173.91	.....	.....	.....	125.00	200.00	67.23	114.29
Enlisted	180.16	143.59	145.24	156.01	169.70	153.07	153.62	160.00	139.65	144.26	104.22	131.34	295.68	143.24
Non-effective—														
Officers	3.96	6.94	5.36	1.27	.53	.....	6.67	.....	.....	.....	5.65	1.64	1.47	4.03
Enlisted	4.15	3.46	3.38	3.29	3.85	3.41	5.34	3.67	3.16	3.62	3.21	2.80	6.88	3.31
Discharges—														
Enlisted	.35	.26	.20	.85	1.29	.....	.93	.....	.....	.....	.....	.....	.70	.27
Deaths—														
Officers	1.09	.....	.....	.....	.43	1.12	.93	.....	.....	.....	.....	.....	.....	1.05
Enlisted	.69	1.10	.81	.85	.....	.....	.....	.....	.....	.76	.....	.....	.95	.70
Diseases of nutrition, general:														
Admissions—														
Officers	5.00	.....	14.29	.....	24.39	.....	.....	.....	.....	.....	62.50	.....	.....	5.23
Enlisted	1.68	1.76	1.40	2.09	1.87	3.25	2.01	2.11	1.61	.82	2.34	.91	2.83	1.48
Non-effective—														
Officers	1.13	.....	.20	.....	.94	.....	.....	.....	.....	.....	152.07	.....	.....	1.43
Enlisted	.12	.08	.20	.14	.03	.39	.06	.18	.53	.10	.01	.02	.16	.13
Discharges—														
Enlisted	.25	.91	.95	.64	.....	.37	.93	1.94	.74	2.27	.....	.42	.15	.53
Deaths—														
Officers	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Enlisted	.05	.....	.07	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.05
Diseases of the nervous system:														
Admissions—														
Officers	63.66	89.04	171.43	98.02	24.39	.....	43.48	500.00	.....	.....	125.00	320.00	.....	67.53
Enlisted	82.77	140.67	72.59	97.14	86.96	62.93	74.80	60.00	63.41	53.28	126.17	77.90	98.18	86.28
Non-effective—														
Officers	5.13	7.96	45.17	.89	24.46	.....	.24	4.79	.....	.....	121.23	48.55	.....	6.12
Enlisted	1.74	2.71	1.92	1.75	1.44	1.88	2.69	1.32	.92	1.84	3.16	2.97	2.26	1.83
Discharges—														
Enlisted	2.50	3.58	3.19	3.21	4.31	3.74	.93	.97	2.96	4.54	2.10	3.76	4.46	2.51
Deaths—														
Officers	2.29	2.20
Enlisted	.74	.97	.68	.85	.86	.37	.93	1.94	1.48	.76	2.16	.42	.15	.86

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TABLE XVII.—The relations of certain diseases and classes of disease to the several arms of the service, etc.—Continued.

Causes of admission to sick report.	Nativities.											Length of service (years).		
	Ameri- can, United States.	Irish.	German.	English.	Can- adian.	Scandi- navian.	Scot.	Swiss.	Aus- trian.	Dane.	French.	All other.	Under one.	One and over.
SPECIAL—continued.														
Coryza—Continued.														
Noneffective—														
Officers	.47	.71	.08	.45	.07						.51	.99	.16	.47
Enlisted	.34	.29	.23	.32	.36	.27	.21	.21	.32	.31	.23	.34	.64	.25
Discharges—														
Enlisted														
Deaths—														
Officers														
Enlisted														
Bronchitis:														
Admissions—														
Officers	69.65	116.44	114.29	93.02	24.39		173.91				125.00	160.00	42.02	71.93
Enlisted	75.71	68.61	53.54	70.22	65.45	54.00	99.28	61.06	44.94	43.45	79.44	59.78	107.09	63.18
Noneffective—														
Officers	2.06	11.20	16.56	1.40	.33		4.17				5.65	8.88	1.27	2.42
Enlisted	1.34	1.26	.85	1.23	1.13	1.23	2.45	1.17	.79	.73	1.09	1.02	1.92	1.12
Discharges—														
Enlisted	.14	.19	.20	.43		.37							.10	.17
Deaths—														
Officers														
Enlisted	.01	.07												.02
Pneumonia:														
Admissions—														
Officers	2.57													2.48
Enlisted	4.38	3.24	3.60	3.48	4.21	3.25	5.02	3.16	.80	1.64		2.26	6.36	3.50
Noneffective—														
Officers	.35													.34
Enlisted	.46	.28	.30	.28	.33	.26	.60	.25	.12	.09		.19	.67	.33
Discharges—														
Enlisted	.05												.05	.03
Deaths—														
Officers	.70													.67
Enlisted	.58	.91	.75	.85	.43	1.12	.93			.76			.95	.58
Diseases of the kidneys:														
Admissions—														
Officers	4.85													4.68
Enlisted	1.42	1.48	1.47	1.39	3.74	1.62	1.00		1.61	.82	2.34	2.72	1.63	1.46
Noneffective—														
Officers	1.03													.99
Enlisted	.15	.15	.14	.10	.61	.17	.02		.11	.03	.15	.46	.19	.15

[illegible]

TABLE XX.—*Causes of rejection among 16,538 recruits physically examined during the year 1894, with corresponding ratios per thousand of each race examined.*

Cause of rejection.	White, 15,025.				Negro, 911			
	Rejected on pri- mary exami- nation.	Rejected on sec- ondary exami- nation.	Total.	Ratios per 1,000.	Rejected on pri- mary exami- nation.	Rejected on sec- ondary exami- nation.	Total.	Ratios per 1,000.
Veneral diseases.....	231	1	232	14.21	24	1	25	27.44
Other infectious diseases.....	45	1	46	2.94				
Diseases of nutrition, general.....	6		6	.38				
Diseases of the nervous system.....	10	3	13	.83				
Diseases of the digestive system.....	532	3	535	34.24	18		18	19.76
Diseases of the circulatory system.....	578	6	584	37.18	24		24	25.34
Diseases of the respiratory organs.....	11	3	14	.90				
Diseases of the genito-urinary sys- tem.....	653	5	658	42.11	27		27	28.64
Diseases of the lymphatic system and ductless glands.....	10		10	.64	2		2	2.20
Diseases of the muscles, bones and joints.....	81	3	84	5.38	5		5	5.49
Diseases of the integument and subcutaneous connective tissue.....	138	1	139	8.00	7		7	7.66
Diseases of the eye.....	1,258	3	1,261	80.70	23		23	20.74
Diseases of the ear.....	84	2	86	5.50	1		1	1.10
Diseases of the nose.....	41		41	2.62				
Hernia.....	115		115	7.36	13		13	14.27
Other injuries.....	71		71	4.54	2		2	2.20
Over height.....	8		8	.38				
Under height.....	314		314	20.10	14		14	15.37
Over weight and obesity.....	64		64	4.10	3		3	3.29
Under weight.....	745		745	47.68	18		18	19.76
Imperfect physique.....	1,077	3	1,080	69.12	58		58	63.67
Mental insufficiency.....	21	2	23	1.47				
Over age.....	75		75	4.80	2		2	2.20
Minors.....	229		229	14.65	6		6	6.78
Married, or having dependent rela- tives.....	54		54	3.46	6		6	6.78
Illiteracy.....	70		70	4.48	42		42	46.11
Imperfect knowledge of English.....	276		276	17.68				
Re-enlistment disapproved for vari- ous reasons.....	45		45	2.88	10		10	10.98
Character bad or doubtful.....	156		156	9.98	9		9	9.88
References none or unsatisfactory.....	348		348	22.27	6		6	6.78
Aliens.....	50		50	3.20				
Fraudulent enlistment.....								
General unfitness and undesirable.....	493		493	31.55	27		27	28.64
No vacancies.....	104		104	6.68	30		30	32.16
Unclassified.....	50		50	3.20	11		11	11.76
Total.....	8,038	35	8,073	516.67	304	1	305	433.59

[illegible]

TABLE XXI.—Average height, weight and chest measure of 7,434 recruits accepted

Age.	Whole number accepted.					Average height (in inches).				
	White.					White.				
	Na-tive.	For-eign born.	Total.	Negro.	Total white and negro.	Na-tive.	For-eign born.	Total.	Negro.	Total white and negro.
16	12	0	12	0	12	64.58	.....	64.58	.....	64.58
17	9	0	9	0	9	66.44	.....	66.44	.....	66.44
18	142	20	162	13	175	67.45	66.65	67.35	66.10	67.26
19	114	19	133	3	136	67.41	67.53	67.42	66.67	67.41
Under 20 (average 18.3) ..	277	39	316	16	332	67.28	67.08	67.25	66.20	67.20
20	94	13	107	4	111	68.10	66.66	67.93	67.69	67.92
21	976	339	1,315	75	1,390	67.21	67.15	67.19	67.24	67.19
22	553	188	741	50	791	67.68	67.26	67.57	67.16	67.54
23	381	145	526	34	560	67.74	67.03	67.55	67.37	67.54
24	328	153	481	25	506	67.56	67.53	67.55	67.18	67.53
20 to 24 (average 22.0) ...	2,332	838	3,170	188	3,358	67.49	67.21	67.42	67.24	67.41
25	259	127	386	24	410	67.55	66.92	67.34	67.46	67.35
26	307	179	486	37	523	67.65	67.43	67.57	67.42	67.56
27	236	146	382	22	404	67.45	67.04	67.30	67.45	67.30
28	169	111	280	19	299	67.54	67.41	67.48	67.11	67.46
29	132	94	226	17	243	67.78	67.30	67.58	67.53	67.56
25 to 29 (average 26.7) ...	1,103	657	1,760	119	1,879	67.58	67.22	67.45	67.40	67.45
30	62	56	118	7	125	67.75	67.20	67.49	66.21	67.42
31	91	121	212	17	229	67.67	67.21	67.41	66.47	67.34
32	94	92	186	19	205	67.56	67.26	67.41	67.75	67.44
33	66	83	149	15	164	67.21	67.26	67.24	66.76	67.20
34	72	62	134	15	149	67.94	67.10	67.55	67.45	67.54
30 to 34 (average 32.0) ...	385	414	799	73	872	67.63	67.21	67.41	67.04	67.38
35	51	38	89	9	98	67.18	67.23	67.20	67.94	67.27
36	52	35	87	21	108	67.40	67.17	67.31	67.24	67.29
37	45	34	79	12	91	67.47	66.69	67.13	67.58	67.19
38	42	39	81	11	92	67.10	67.03	67.07	67.00	67.06
39	26	19	45	4	49	68.01	67.00	67.58	65.44	67.41
35 to 39 (average 36.7) ...	216	165	381	57	438	67.38	67.03	67.23	67.07	67.23
40 to 49 (average 44.1) ...	210	210	420	42	462	67.46	67.23	67.35	67.06	67.33
50 and over (average 52.8)	24	65	89	4	93	66.41	66.23	66.23	66.19	66.36
16 and over (average 26.8)	4,547	2,388	6,935	499	7,434	67.50	67.18	67.39	67.21	67.38

during the year 1894 (native white, 4,547; foreign-born white, 2,338; negro, 499).

Average weight (in pounds)				Average chest measure (in inches)										
White			Negro.	Total white and negro.	White.				Negro.		Total white and negro.			
Native.	Foreign born.	Total.			Native.		Foreign born.		Total.		Negro.			
					Expiration.	Inspiration.	Expiration.	Inspiration.	Expiration.	Inspiration.	Expiration.	Inspiration.		
115.00	.....	115.00		115.00	30.13	32.71	.....	..	30.13	32.71	...	...	30.13	32.71
128.00	.....	128.00		128.00	31.86	34.17	.....	..	31.86	34.17	.....	.....	31.86	34.17
130.10	135.10	135.98	134.85	135.89	32.97	35.77	33.98	36.13	33.02	35.82	33.48	36.06	33.05	35.84
137.00	139.37	137.30	144.00	137.32	33.14	36.02	33.58	36.47	33.20	36.08	33.17	35.75	33.20	36.08
135.32	137.18	135.55	134.69	135.61	32.88	35.60	33.47	36.29	32.95	35.77	33.42	36.00	32.98	35.78
140.05	143.23	140.44	146.75	140.67	33.51	36.31	34.15	37.08	33.59	36.40	34.58	36.69	33.62	36.41
142.75	143.34	142.90	145.01	144.01	33.79	36.68	34.10	37.04	33.87	36.77	34.06	36.52	33.88	36.76
144.11	144.28	144.16	147.72	144.38	33.90	36.81	34.38	37.27	34.02	36.93	34.35	36.77	34.04	36.92
144.92	144.82	144.89	146.65	145.01	34.04	36.95	34.56	37.48	34.18	37.10	34.49	37.09	34.20	37.10
144.92	147.39	145.70	142.84	145.56	34.04	36.98	34.74	37.67	34.26	37.20	34.03	36.60	34.25	37.17
143.62	144.55	143.87	145.81	143.98	33.88	36.78	34.36	37.28	34.01	36.91	34.22	36.70	34.02	36.90
145.05	144.40	144.84	148.71	145.08	34.20	37.11	34.31	37.37	34.24	37.20	34.24	36.78	34.24	37.18
147.00	147.35	147.13	149.88	147.1	34.26	37.22	34.47	37.50	34.34	37.33	33.99	36.59	34.32	37.27
145.95	144.04	145.22	149.50	145.46	34.37	37.24	34.29	37.28	34.34	37.20	34.11	36.90	34.33	37.24
146.76	146.23	146.55	148.95	146.70	34.41	37.35	34.57	37.53	34.48	37.44	33.79	36.49	34.44	37.37
149.36	147.77	148.70	152.47	148.96	34.57	37.63	34.88	37.95	34.70	37.76	34.34	37.07	34.67	37.72
146.56	145.92	146.32	149.73	146.54	34.33	37.27	34.48	37.50	34.39	37.36	34.08	36.74	34.37	37.32
146.81	147.25	147.02	146.71	147.00	34.33	37.39	34.84	37.70	34.57	37.50	34.43	36.80	34.50	37.53
152.25	146.66	149.07	153.24	149.38	34.65	37.62	34.48	37.45	34.64	37.52	34.25	36.71	34.61	37.46
150.03	153.66	151.83	153.74	152.00	34.76	37.71	35.30	38.31	35.04	38.01	34.59	37.41	35.04	37.95
151.76	147.70	149.50	150.40	149.58	34.63	37.80	34.78	37.74	34.71	37.77	34.27	36.70	34.67	37.67
152.24	147.02	149.82	150.13	149.85	34.62	37.07	34.58	37.54	34.71	37.61	33.85	36.63	34.62	37.50
150.75	149.56	149.61	151.52	149.77	34.71	37.64	34.78	37.75	34.75	37.70	34.28	36.87	34.71	37.69
151.08	147.71	149.64	162.56	150.81	34.89	37.78	35.29	37.93	35.00	37.85	34.58	37.47	35.02	37.81
149.06	149.00	149.03	156.00	150.39	34.49	37.47	34.71	37.63	34.58	37.53	34.05	37.70	34.65	37.57
147.33	150.28	148.59	160.07	150.19	34.19	37.25	34.64	37.60	34.39	37.40	34.71	37.35	34.43	37.40
148.62	153.85	151.14	164.73	152.76	34.49	37.23	35.47	38.62	34.96	37.90	35.27	38.00	35.00	37.91
148.38	154.79	151.09	138.25	150.04	34.56	37.54	35.63	38.87	35.01	38.10	34.30	36.63	34.92	37.98
149.01	150.78	149.77	158.46	150.90	34.53	37.46	35.12	38.07	34.78	37.72	34.84	37.57	34.79	37.70
151.54	153.09	152.32	150.81	152.18	35.03	37.82	35.45	38.32	35.24	38.07	34.24	36.76	35.15	37.95
143.71	147.91	146.78	158.50	147.28	34.46	36.91	35.44	38.01	35.17	37.71	35.25	37.75	35.18	37.73
145.06	146.77	145.65	149.19	145.88	34.08	36.90	34.63	37.57	34.27	37.34	34.25	36.83	34.27	37.17

TABLE XXII.—*Artificial limbs and apparatus.*

Disabilities.	Casualties, 1870-85.				Casualties, 1875-80.				Casualties, 1880-85.			
	Allowed, 1870-75.	Died.	Dropped.	Rejected.	Allowed, 1875-80.	Died.	Dropped.	Rejected.	Allowed, 1880-85.	Died.	Dropped.	Rejected.
Amputation of—												
1 arm	4,050	1,459	137	...	3,060	162	43	8	101	96	23	2
1 arm and 1 leg	18	8	...	...	10	...	...	...	...	...	...	...
1 arm and 1 hand	1	...	...	...	1	...	...	...	...	...	...	...
1 arm and use of 1 arm	23	5	...	...	21	1	1	...	...	...	...	...
1 arm and use of 1 arm and 2 legs	1	1	...	...	...	...	...	...	...	...	...	...
1 arm and use of 1 leg	3	1	...	...	3	...	...	...	...	...	...	...
1 arm and use of 2 legs	3	1	...	...	3	...	...	...	...	...	...	...
2 arms	32	15	1	...	16	...	...	...	...	...	...	...
2 arms and 2 legs	1	1	...	...	1	...	...	...	...	...	...	...
1 hand	58	19	2	...	37	6	3	...	3	6	1	...
2 hands	3	1	...	...	1	...	...	...	...	...	...	...
1 leg	4,540	1,308	128	13,103	159	44	7	2	106	139	23	5
1 leg and 1 foot	6	...	...	...	6	1	1	...	...	...	...	...
1 leg and 1 foot and use of 2 arms	1	1	...	...	...	...	...	...	...	...	...	...
1 leg and use of 1 arm	12	5	...	...	7	1	...	...	1	1	1	...
1 leg and use of 1 arm and 1 leg	...	...	...	...	...	...	...	...	...	...	...	...
1 leg and use of 1 leg	19	9	1	...	6	1	1	...	...	...	...	...
2 legs	48	14	2	...	28	2	3	...	...	...	...	...
1 foot	73	21	5	...	48	6	1	...	7	10	1	...
1 foot and use of 1 leg	...	...	...	...	...	...	...	...	...	...	...	...
2 feet	17	5	1	...	11	2	...	...	1	4	1	...
Loss of use of												
1 arm	1,635	503	61	261,045	850	241	34	29	555	1,631	545	19
1 arm and 1 leg	20	8	...	...	10	21	10	1	10	36	19	1
1 arm and 2 legs	8	2	...	...	3	5	4	...	1	22	9	...
2 arms	17	5	...	...	13	14	10	...	4	31	12	...
2 arms and 1 leg	...	...	...	...	...	...	...	...	...	...	...	...
2 arms and 2 legs	2	...	...	...	2	17	15	...	2	79	37	...
1 leg	585	222	32	308	478	156	24	19	279	1,632	206	14
2 legs	38	17	1	...	18	62	25	8	26	200	82	4
Total	11,830	3,637	371	54,768	1,794	639	84	53	1,098	3,987	832	67

Diseases of the organs of special sense:															
Admissions—	22.98	27.40	57.14	69.77	.....	125.00	.....	.....	.....	.....	.....	.....	.....	.....	.....
Officers.....	29.80	25.39	23.02	24.11	27.12	26.14	30.12	33.68	20.87	34.43	62.50	40.00	.....	24.07	24.07
Enlisted.....											39.72	27.17	43.11	25.48	25.48
Noneffective—															
Officers.....	3.00	5.95	10.96	2.99	.....	2.05	.....	.....	.....	.....	.68	.77	.....	3.14	3.14
Enlisted.....	1.15	.99	.85	1.02	1.23	1.41	1.34	1.19	.49	1.49	3.67	1.52	1.62	1.03	1.03
Discharges—															
Enlisted.....	1.75	1.43	1.76	2.35	2.59	1.50	1.85	1.94	2.22	2.27	2.16	3.34	2.56	1.64	1.64
Deaths—															
Officers.....															
Enlisted.....	.04	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.10	.....	.01
Unclassified:															
Admissions—															
Officers.....	.29	1.90	2.50	1.16	2.81	3.25	3.01	.....	4.01	.82	.....	1.81	9.73	.28	.28
Enlisted.....	3.79	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.95	1.95
Noneffective—															
Officers.....	.02	.....	.....	.03	.02	.08	.20	.....	.35	.002	.....	.07	.27	.02	.02
Enlisted.....	.11	.05	.06	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.05	.05
Discharges—															
Enlisted.....															
Deaths—															
Officers.....															
Enlisted.....	.01	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.01
Total for diseases:															
Admissions—															
Officers.....	724.95	794.52	914.29	930.23	536.59	500.00	826.09	1,625.00	500.00	.....	937.50	1,720.00	302.52	740.06	740.06
Enlisted.....	1,123.13	984.91	835.20	939.50	1,091.16	931.38	840.36	928.42	842.70	845.08	1,063.09	845.11	1,884.43	884.92	884.92
Noneffective—															
Officers.....	46.48	63.56	116.16	39.82	43.64	20.55	45.86	26.71	6.85	.....	208.30	110.91	11.67	42.92	42.92
Enlisted.....	33.33	27.52	25.07	24.40	83.28	28.16	25.24	28.97	20.53	25.26	30.66	23.98	55.53	25.94	25.94
Discharges—															
Enlisted.....	15.58	15.34	14.24	13.89	20.69	16.09	14.82	14.55	17.75	15.87	10.78	15.03	25.21	13.55	13.55
Deaths—															
Officers.....	8.75	14.29	.....	.....	16.95	.....	.....	.....	.....	.....	.....	.....	.....	8.82	8.82
Enlisted.....	4.41	5.72	4.13	4.49	4.31	5.24	1.85	2.91	2.96	6.80	6.47	2.09	5.21	4.36	4.36
General injuries:															
Admissions—															
Officers.....	3.57	.....	.....	.....	.....	.....	43.48	.....	.....	.....	.....	.....	.....	3.58	3.58
Enlisted.....	2.78	3.53	3.31	2.55	5.14	4.06	1.00	3.16	1.61	2.40	7.01	2.72	5.06	2.59	2.59
Noneffective—															
Officers.....	.09	.....	.....	.03	.06	.23	.12	.....	.....	.....	.....	.....	.....	.08	.08
Enlisted.....	.05	.09	.06	.....	.....	.....	.01	.03	.01	.02	.03	.05	.07	.05	.05
Discharges—															
Enlisted.....	.03	.13	.....	.....	.....	.37	.....	.....	.....	.....	.....	.....	.05	.04	.04
Deaths—															
Officers.....	.30	.....	.....	.....	.....	90.91	.....	.....	.....	.....	.....	.....	.....	.38	.38
Enlisted.....	.94	1.10	.95	1.07	1.29	1.87	.93	.97	2.96	.....	.....	1.67	1.15	.99	.99
Injuries to special parts:															
Admissions—															
Officers.....	68.23	68.49	71.43	209.30	.....	125.00	86.96	125.00	250.00	.....	.....	120.00	16.81	69.87	69.87
Enlisted.....	271.88	264.64	219.00	235.75	280.51	246.85	238.96	221.05	227.13	194.26	264.02	211.50	414.36	230.36	230.36

TABLE XVII.—*The relations of certain diseases and classes of disease to the several arms of the service, etc.—Continued.*

Causes of admission to sick report	Nationalities.											Length of service (years).		
	Amer. civ. United States.	Irish	German	English.	Canadian.	Scandinavian.	Scot.	Swiss.	Austrian.	Dane.	French.	All other.	Under one.	One and over.
HOOPER—continued.														
Injuries to special parts—Continued.														
Non-effective—														
Officers.....	6.32	4.64	6.91	12.23		23.29	11.75		10.90			1.75	1.39	5.44
Enlisted.....	8.96	9.28	7.56	7.06	8.71	8.55	10.36	6.61	6.26	7.41	5.91	7.19	12.74	7.60
Discharges—														
Enlisted.....	3.47	3.38	2.98	2.78	3.62	2.89	2.78	1.94	3.70	5.29	2.16	2.51	6.06	2.82
Deaths—														
Officers.....	.80					90.81								.86
Enlisted.....	1.68	1.43	1.63	1.28	1.72	1.97	2.78	.97	1.48		4.21	.84	1.40	1.05
Total for injuries:														
Admissions—														
Officers.....	71.80	68.49	71.43	306.30		125.00	180.43	158.00	280.00			120.00	16.81	73.44
Enlisted.....	274.66	298.16	222.21	238.30	286.46	250.91	239.80	224.21	228.73	196.73	271.03	214.22	419.41	282.65
Non-effective—														
Officers.....	5.40	4.84	5.91	12.23		23.29	17.87		10.96			1.75	1.39	5.82
Enlisted.....	8.71	8.37	7.61	7.06	8.77	8.76	10.36	6.84	6.27	7.43	5.94	7.24	12.81	7.75
Discharges—														
Enlisted.....	3.49	3.51	2.96	2.78	3.08	2.87	2.78	1.94	3.70	5.29	2.16	2.51	6.11	2.85
Deaths—														
Officers.....	1.09					181.82								1.25
Enlisted.....	2.63	2.54	2.56	2.35	3.02	3.74	3.70	1.94	4.44		4.31	2.61	2.68	2.64
Total for all causes:														
Admissions—														
Officers.....	704.74	863.01	685.71	1,139.63	536.56	626.90	854.23	1,750.80	730.00		987.50	1,640.00	819.23	812.51
Enlisted.....	1,367.78	1,253.07	1,067.51	1,177.80	1,378.81	1,183.30	1,083.22	1,162.83	1,071.43	1,641.60	1,324.11	1,689.23	2,302.63	1,117.67
Non-effective—														
Officers.....	45.89	68.49	132.07	52.05	43.64	43.14	65.73	24.71	17.81		288.90	112.06	12.06	48.44
Enlisted.....	43.94	34.89	32.66	32.36	42.08	34.94	38.16	35.81	26.80	32.66	38.60	31.23	68.84	33.60
Discharges—														
Enlisted.....	19.97	13.65	17.32	16.67	23.71	18.46	17.69	16.49	21.45	21.36	12.83	17.84	31.26	16.40
Deaths—														
Officers.....	8.55	14.29			16.96	181.82							7.77	16.86
Enlisted.....	7.64	6.36	6.71	6.34	7.33	8.68	8.66	4.65	7.40	6.80	10.76	6.59	7.77	7.60

TABLE XVIII.—*Number of applicants for enlistment physically examined during the year 1894, with the number accepted, rejected on primary examination, and declined, and ratios per thousand.*

	White.		Negro.		Indian. ¹		Total.	
	Num-ber.	Ratio per 1,000 white ex-amin-ined.	Num-ber.	Ratio per 1,000 negroes exam-ined.	Num-ber.	Ratio per 1,000 Indians exam-ined.	Num-ber.	Ratio per 1,000 exam-ined.
Examined	15, 625	1, 000. 00	911	1, 000. 00	50	1, 000	16, 586	1, 000. 00
Accepted	6, 935	443. 84	499	547. 75	47	940	7, 481	451. 04
Rejected	8, 038	514. 43	394	432. 49	2	40	8, 434	508. 50
Declined.....	652	41. 73	18	19. 76	1	20	671	40. 46

¹ Including only applicants for enlistment as soldiers. In addition to these, 149 Indian applicants for enlistment as scouts were examined, of whom 147 were accepted and 2 rejected.

TABLE XIX.—*Nativity of accepted recruits during the year 1894, with ratios per thousand accepted.*

Nativity.	White.		Negro.		Indian.		Total.	
	Num-ber.	Ratio per 1,000 accepted.	Num-ber.	Ratio per 1,000 accepted.	Num-ber.	Ratio per 1,000 accepted.	Num-ber.	Ratio per 1,000 accepted.
United States.....	4, 547	607. 80	493	65. 90	47	6. 28	5, 087	679. 99
England	237	31. 68	.....	.....	.....	.....	237	31. 68
Scotland	58	7. 75	.....	.....	.....	.....	58	7. 75
Wales	13	1. 73	.....	.....	.....	.....	13	1. 73
Ireland	708	94. 64	.....	.....	.....	.....	708	94. 64
Canada	127	16. 97	2	. 27	.....	.....	129	17. 24
Other British possessions..	8	1. 07	.....	.....	.....	.....	8	1. 07
France	21	2. 80	.....	.....	.....	.....	21	2. 80
Belgium	5	. 67	.....	.....	.....	.....	5	. 67
Holland	13	1. 73	.....	.....	.....	.....	13	1. 73
Denmark	89	11. 89	.....	.....	.....	.....	89	11. 89
Norway	53	7. 08	.....	.....	.....	.....	53	7. 08
Sweden.....	116	15. 50	.....	.....	.....	.....	116	15. 50
Germany	705	94. 24	1	. 13	.....	.....	706	94. 37
Switzerland	45	6. 01	.....	.....	.....	.....	45	6. 01
Austria.....	84	11. 23	.....	.....	.....	.....	84	11. 23
Bohemia.....	4	. 53	.....	.....	.....	.....	4	. 53
Hungary	8	1. 07	.....	.....	.....	.....	8	1. 07
Poland.....	9	1. 20	.....	.....	.....	.....	9	1. 20
Russia.....	47	6. 28	.....	.....	.....	.....	47	6. 28
Finland.....	12	1. 60	.....	.....	.....	.....	12	1. 60
Italy	15	2. 00	.....	.....	.....	.....	15	2. 00
Other countries.....	11	1. 47	3	. 40	.....	.....	14	1. 87
Total	6, 935	927. 01	499	66. 70	47	6. 28	7, 481	1000. 00

TABLE XX.—Causes of rejection among 12,586 recruits physically examined during the year 1894, with corresponding ratios per thousand of each race examined.

Number examined.....		White, 15,625.				Negro, 911.			
Cause of rejection.	Rejected on pri- mary exami- nation.	Rejected on sec- ondary exami- nation.	Total.	Ratios per 1,000.		Rejected on pri- mary exami- nation.	Rejected on sec- ondary exami- nation.	Total.	Ratios per 1,000.
Venereal diseases.....	221	1	222	14.21		24	1	25	27.44
Other infectious diseases.....	45	1	46	2.94					
Diseases of nutrition, general.....	6		6	.38					
Diseases of the nervous system...	10	3	13	.83					
Diseases of the digestive system..	532	3	535	34.24		18		18	19.78
Diseases of the circulatory system.	578	5	581	37.18		24		24	25.34
Diseases of the respiratory organs.	11	3	14	.90					
Diseases of the genito-urinary sys- tem.....	653	5	658	42.11		27		27	29.64
Diseases of the lymphatic system and ductless glands.....	10		10	.64		2		2	2.20
Diseases of the muscles, bones and joints.....	81	3	84	5.38		5		5	5.49
Diseases of the integument and subcutaneous connective tissue..	132	1	133	8.90		7		7	7.68
Diseases of the eye.....	1,252	3	1,261	80.70		28		28	30.74
Diseases of the ear.....	84	2	86	5.50		1		1	1.10
Diseases of the nose.....	41		41	2.62					
Hernia.....	115		115	7.36		13		13	14.27
Other injuries.....	71		71	4.54		2		2	2.20
Over height.....	6		6	.38					
Under height.....	314		314	20.10		14		14	15.37
Over weight and obesity.....	64		64	4.10		3		3	3.29
Under weight.....	745		745	47.68		18		18	19.76
Imperfect physique.....	1,077	3	1,080	69.12		58		58	62.67
Mental insufficiency.....	21	2	23	1.47					
Over age.....	75		75	4.80		2		2	2.29
Minors.....	229		229	14.65		8		8	8.78
Married, or having dependent rela- tives.....	54		54	3.46		6		6	6.59
Illiteracy.....	70		70	4.48		42		42	44.11
Imperfect knowledge of English..	276		276	17.66					
Recruitment disapproved for vari- ous reasons.....	45		45	2.88		10		10	10.98
Character bad or doubtful.....	156		156	9.96		9		9	9.68
References none or unsatisfactory.	348		348	22.27		8		8	8.78
Aliens.....	59		59	3.78					
Fraudulent enlistment.....									
General unfitness and undesirable.	493		493	31.55		27		27	29.64
No vacancies.....	104		104	6.66		30		30	32.08
Unclassified.....	50		50	3.20		8		8	8.78
Total.....	8,038	35	8,073	516.67		394	1	395	432.59

TABLE XX.—*Causes of rejection among 16,586 recruits physically examined during the year 1894, etc.—Continued.*

Number examined.....	Indian, 50.				Total, 16,586.			
Cause of rejection.	Rejected on pri- mary exami- nation.	Rejected on sec- ondary exami- nation.	Total.	Ratio per 1,000.	Rejected on pri- mary exami- nation.	Rejected on sec- ondary exami- nation.	Total.	Ratio per 1,000.
Veneral diseases.....					245	2	247	14.89
Other infectious diseases.....					45	1	46	2.77
Diseases of nutrition, general.....					6		6	.36
Diseases of the nervous system.....					10	3	13	.78
Diseases of the digestive system.....	1		1	20	551	3	554	33.40
Diseases of the circulatory system.....					600	5	605	36.47
Diseases of the respiratory organs.....					11	3	14	.84
Diseases of the genito-urinary sys- tem.....					680	5	685	41.30
Diseases of the lymphatic system and ductless glands.....					12		12	.72
Diseases of the muscles, bones and joints.....					86	3	89	5.37
Diseases of the integument and subcutaneous connective tissue.....					145	1	146	8.80
Diseases of the eye.....					1,288	3	1,291	77.72
Diseases of the ear.....					85	2	87	5.25
Diseases of the nose.....					41		41	2.47
Hernia.....					128		128	7.72
Other injuries.....					73		73	4.40
Over height.....					6		6	.36
Under height.....					328		328	19.77
Over weight and obesity.....					97		97	4.04
Under weight.....					763		763	46.00
Imperfect physique.....					1,135	3	1,138	68.61
Mental insufficiency.....					21	2	23	1.39
Over age.....					77		77	4.64
Minors.....					237		237	14.29
Married, or having dependent rela- tives.....					60		60	3.62
Illiteracy.....					112		112	6.75
Imperfect knowledge of English.....					276		276	16.64
Enlistment disapproved for vari- ous reasons.....					55		55	3.32
Character bad or doubtful.....					165		165	9.95
References none or unsatisfactory.....					356		356	21.46
Aliens.....					59		59	3.56
Fraudulent enlistment.....								
General unfitness and undesirable.....					520		520	31.35
No vacancies.....					134		134	8.08
Unclassified.....	1		1	20	59		59	3.56
Total.....	2		2	40	8,434	36	8,470	510.67

TABLE XXI.—Average height, weight and chest measure of 7,434 recruits accepted

Age	White number accepted					Average height (in inches).				
	White					White.			Negro.	Total white and negro.
	Na-tive.	For-eign born.	Total.	Negro.	Total white and negro.	Na-tive.	For-eign born.	Total.		
16	12	0	12	0	12	64.58		64.58		64.58
17	9	0	9	0	9	66.44		66.44		66.44
18	133	0	133	0	133	67.45	66.65	67.35	66.10	67.26
19	136	0	136	0	136	67.41	67.53	67.42	66.67	67.41
Under 20 (average 18.5)	331	0	331	0	331	67.28	67.08	67.25	66.20	67.20
20	111	0	111	4	115	68.10	66.08	67.93	67.00	67.93
21	130	0	130	4	134	67.21	67.15	67.19	67.24	67.19
22	191	0	191	4	195	67.02	67.26	67.57	67.16	67.54
23	191	0	191	4	195	67.74	67.03	67.55	67.37	67.54
24	191	0	191	4	195	67.56	67.53	67.55	67.18	67.53
25 to 29 (average 26.5)	345	0	345	1	346	67.49	67.21	67.42	67.24	67.41
25	410	0	410	2	412	67.55	66.92	67.34	67.46	67.35
26	523	0	523	2	525	67.65	67.43	67.57	67.42	67.56
27	424	0	424	1	425	67.45	67.04	67.30	67.45	67.30
28	380	0	380	1	381	67.54	67.41	67.48	67.11	67.46
29	243	0	243	1	244	67.78	67.30	67.58	67.53	67.56
30 to 34 (average 32.5)	879	0	879	1	880	67.58	67.22	67.45	67.40	67.45
30	125	0	125	1	126	67.75	67.20	67.49	66.21	67.42
31	149	0	149	1	150	67.67	67.21	67.41	66.47	67.34
32	205	0	205	1	206	67.56	67.26	67.41	67.75	67.44
33	164	0	164	1	165	67.21	67.26	67.24	66.78	67.20
34	149	0	149	1	150	67.94	67.10	67.55	67.45	67.54
35 to 39 (average 36.7)	872	0	872	7	879	67.63	67.21	67.41	67.04	67.36
35	98	0	98	9	107	67.18	67.23	67.20	67.94	67.27
36	166	0	166	21	187	67.40	67.17	67.31	67.24	67.29
37	91	0	91	12	103	67.47	66.60	67.13	67.58	67.19
38	92	0	92	11	103	67.10	67.03	67.07	67.00	67.06
39	40	0	40	4	44	68.01	67.00	67.58	65.44	67.41
35 to 39 (average 36.7)	216	165	381	57	438	67.38	67.03	67.23	67.07	67.23
40 to 49 (average 44.1)	210	210	420	42	462	67.46	67.23	67.35	67.06	67.33
50 and over (average 52.8)	24	65	89	4	93	66.41	66.23	66.23	66.19	66.36
16 and over (average 26.8)	4,547	2,362	6,935	499	7,434	67.50	67.18	67.39	67.21	67.36

during the year 1894 (native white, 4,547; foreign-born white, 2,388; negro, 499).

Average weight (in pounds).					Average chest measure (in inches).											
White.			Negro.	Total white and negro.	White.				Negro.		Total white and negro.					
Na-tive.	For- eign born.	Total.			Native.	Foreign born.	Total.									
					Expi- ra- tion.	Inspi- ra- tion.	Expi- ra- tion.	Inspi- ra- tion.	Expi- ra- tion.	Inspi- ra- tion.	Expi- ra- tion.	Inspi- ra- tion.	Expi- ra- tion.	Inspi- ra- tion.		
115.00	.....	115.00	.....	115.00	30.13	32.71	.....	.....	30.13	32.71	.....	.....	30.13	32.71
128.00	.....	128.00	.....	128.00	31.86	34.17	.....	.....	31.86	34.17	.....	.....	31.86	34.17
136.10	135.10	135.98	134.85	135.89	32.97	35.77	33.38	36.13	33.02	35.82	33.48	36.06	33.05	35.84		
137.06	139.37	137.39	134.00	137.32	33.14	36.02	33.58	36.47	33.20	36.08	33.17	35.75	33.20	36.08		
135.32	137.18	135.55	134.69	135.51	32.88	35.69	33.47	36.29	32.95	35.77	33.42	36.00	32.98	35.78		
140.05	143.23	140.44	146.75	140.67	33.51	36.31	34.15	37.08	33.59	36.40	34.38	36.69	33.62	36.41		
142.75	143.34	142.90	145.01	143.01	33.79	36.68	34.10	37.04	33.87	36.77	34.06	36.52	33.88	36.76		
144.11	144.28	144.16	147.72	144.38	33.90	36.81	34.38	37.27	34.02	36.93	34.35	36.77	34.04	36.92		
144.92	144.82	144.89	146.85	145.01	34.04	36.95	34.56	37.48	34.18	37.10	34.49	37.09	34.20	37.10		
144.92	147.39	145.70	142.84	145.56	34.04	36.98	34.74	37.67	34.26	37.20	34.03	36.60	34.25	37.17		
143.62	144.55	143.87	145.81	143.98	33.88	36.78	34.36	37.28	34.01	36.91	34.22	36.70	34.02	36.90		
145.05	144.40	144.84	148.71	145.06	34.20	37.11	34.31	37.37	34.24	37.20	34.24	36.78	34.24	37.18		
147.00	147.35	147.13	149.68	147.31	34.26	37.22	34.47	37.50	34.34	37.33	33.99	36.59	34.32	37.27		
145.95	144.04	145.22	149.50	145.46	34.37	37.24	34.29	37.28	34.34	37.26	34.11	36.90	34.33	37.24		
146.76	146.23	146.55	148.95	146.70	34.41	37.35	34.57	37.53	34.48	37.43	33.79	36.49	34.43	37.37		
149.36	147.77	148.70	152.47	148.96	34.57	37.63	34.88	37.95	34.70	37.76	34.34	37.07	34.67	37.72		
146.56	145.92	146.32	149.73	146.54	34.33	37.27	34.48	37.50	34.39	37.36	34.08	36.74	34.37	37.32		
146.81	147.25	147.02	146.71	147.00	34.33	37.39	34.83	37.76	34.57	37.56	34.43	36.89	34.56	37.53		
152.25	146.68	149.07	153.24	149.38	34.85	37.62	34.48	37.45	34.64	37.52	34.25	36.71	34.61	37.46		
150.03	153.66	151.83	153.74	152.00	34.78	37.71	35.30	38.31	35.04	38.01	34.59	37.41	35.00	37.95		
151.76	147.70	149.50	150.40	149.58	34.63	37.80	34.78	37.74	34.71	37.77	34.27	36.70	34.67	37.67		
152.24	147.02	149.82	150.13	149.85	34.82	37.67	34.58	37.54	34.71	37.61	33.85	36.53	34.62	37.50		
150.75	148.56	149.61	151.52	149.77	34.71	37.64	34.78	37.75	34.75	37.70	34.28	36.87	34.71	37.63		
151.08	147.71	149.64	162.56	150.83	34.89	37.78	35.29	37.93	35.06	37.85	34.58	37.47	35.02	37.81		
149.06	149.00	149.03	156.00	150.39	34.49	37.47	34.71	37.63	34.58	37.53	34.95	37.70	34.65	37.57		
147.33	150.26	148.59	160.67	150.19	34.19	37.25	34.64	37.60	34.39	37.40	34.71	37.35	34.43	37.40		
148.62	153.85	151.14	164.73	152.76	34.49	37.23	35.47	38.62	34.96	37.90	35.27	38.00	35.00	37.91		
148.38	154.79	151.09	138.25	150.04	34.56	37.54	35.63	38.87	35.01	38.10	34.00	36.63	34.92	37.98		
149.01	150.78	149.77	158.46	150.90	34.53	37.46	35.12	38.07	34.78	37.72	34.84	37.57	34.79	37.70		
151.56	153.09	152.32	150.81	152.18	35.03	37.82	35.45	38.32	35.24	38.07	34.24	36.76	35.15	37.95		
143.71	147.91	146.78	158.50	147.28	34.46	36.91	35.44	38.01	35.17	37.71	35.25	37.75	35.18	37.72		
145.06	146.77	145.65	149.19	145.88	34.08	36.99	34.63	37.57	34.27	37.33	34.25	36.83	34.27	37.17		

TABLE XXII.—Artificial limbs and apparatus.

Disabilities.	Casualties, 1870-75.				Casualties, 1875-80.				Casualties, 1880-85.			
	Allowed, 1870-75.	Died.	Dropped.	Rejected.	Allowed, 1875-80.	Died.	Dropped.	Rejected.	Allowed, 1880-85.	Died.	Dropped.	Rejected.
Amputation of—												
1 arm	4,656	1,459	137	3,060	152	42	8	101	96	23	3	70
1 arm and 1 leg	18	8		10								
1 arm and 1 hand	1			1								
1 arm and use of 1 arm	26	5		21	1	1						
1 arm and use of 1 arm and 2 legs	1	1										
1 arm and use of 1 leg	5	2		3								
1 arm and use of 2 legs	3	1		2	1			1				
2 arms	32	15	1	16								
2 arms and 2 legs	1			1								
1 hand	58	19	2	37	6	3		3	8	1		
2 hands	3	2		1	2	1		1				
1 leg	4,540	1,308	128	3,103	159	44	7	2	106	123	29	5
1 leg and 1 foot	6			6	1	1			1			
1 leg and 1 foot and use of 2 arms	1	1										
1 leg and use of 1 arm	12	6		7	1			1	1			
1 leg and use of 1 arm and 1 leg					1	1						
1 leg and use of 1 leg	19	9	1	9	1		1					
2 legs	43	18	2	23	2	2			2	1		
1 foot	75	21	5	49	8	1		7	19		1	
1 foot and use of 1 leg												
2 feet	17	5	1	11	2		1	1	4	1		
Loss of use of—												
1 arm	1,635	503	61	28	1,045	850	241	34	565	1,231	345	13
1 arm and 1 leg	26	9		16	21	10	1		10	39	19	1
1 arm and 2 legs	5	2		3	5	4			1	22	9	
2 arms	17	5		12	14	10			4	81	12	
2 arms and 1 leg				1	1					9	6	
2 arms and 2 legs	2			2	17	15			2	78	37	2
1 leg	585	222	32	306	478	156	24	19	278	1,362	266	14
2 legs	38	17	1	19	62	25	8	5	26	206	62	4
Total	11,830	3,637	371	54	7,768	1,794	566	84	63,106	12,987	833	47

June 17, 1870, to June 30, 1895, inclusive.

Allowed, 1868-90.	Casualties, 1868-95.			Remaining June 30, 1895.	Allowed, 1890-93.	Casualties 1890-95.			Remaining June 30, 1895.	Allowed, 1893-96.	Died, 1893-95.	Remaining June 30, 1896.	Total allowed, 1870-95.	Total casualties, 1870-95.			Total remaining, June 30, 1896.
	Died.	Dropped.	Rejected.			Died.	Dropped.	Rejected.						Died.	Dropped.	Rejected.	
51	11			40	20	2			18	6		6	4,981	1,538	147		3,296
													13	8			10
													27	6			21
1				1									2	1			1
													5	2			3
	1												4	1			3
1	1												33	16	1		16
													1				1
6			1	8	2				2				81	23	2	1	57
1				1	1				1				7	3			4
127	18		2	107	57	6			51	17		17	5,038	1,406	140	6	3,488
1				1									9	1			8
													1	1			
													14	6			8
					1				1				2	1			1
					1	1							21	10	2		9
1				1	1				1	1		1	54	21	2		31
3	1			2	2				1	1		1	102	23	6	3	70
1	1												1	1			
													23	6	2		15
1,314	144	7	57	1,106	302	16			282	34	1	33	6,075	1,250	120	250	4,455
106	28	3	1	73	44	6			38	8		8	203	72	5	5	211
16	5			11	13				3	2		2	53	20			33
46	14	2		33	18	2			11	3		3	127	43	2	2	80
8	2			5	3				3				26	9	1		10
44	17	2	1	24	23	7			16	4		4	138	76	4	1	87
1,243	167	6	68	1,006	316	18			287	48		48	4,033	829	78	255	2,870
312	65	2	13	132	81	16	1	2	62	22	1	21	621	206	16	26	373
2,189	474	25	145	2,545	671	74	1	17	779	146	2	144	21,817	5,578	528	549	15,162

INTERNATIONAL TABLE I.—*Examination of recruits during the year 1894.*

No.		White.	Negro.	Indian.	Total.
1	Total number of recruits examined	15,025	911	50	16,086
2	Of each 1,000 of these—				
3	Were accepted for service	443.84	447.75	949.00	451.04
4	Were rejected for under height	20.10	15.87		18.71
5	Were rejected for disabilities	494.33	417.12	40.00	468.73
6	Of each 1,000 accepted recruits the heights were as follows (in inches):				
7	Under 61 .....	.75			.67
8	61 to 62 .....	.43			.40
9	62 to 63	2.45	2.06		2.41
10	63 to 64	9.06	10.03	21.28	9.79
11	64 to 65	88.83	102.20	21.28	89.39
12	65 to 66	132.06	158.33	21.28	133.47
13	66 to 67	189.14	172.34	127.06	189.19
14	67 to 68	178.51	200.40	106.38	179.39
15	68 to 69	174.02	184.33	234.04	174.41
16	69 to 70	118.03	86.17	101.49	113.23
17	70 to 71	71.28	58.12	179.31	71.11
18	71 to 72	34.40	18.04	63.83	33.55
19	72 to 73	13.84	20.04	21.38	14.39
20	73 to 74	7.35	8.02	21.28	7.49
21	74 upward	2.31			2.34
22	Causes of rejection (exclusive of under height) expressed in ratios per 1,000 of examined recruits:				
23	Physical debility .....	.36			.36
24	Tuberculosis of lungs or other organs	1.66			1.67
25	Imperfect vision	79.74	30.74		78.21
26	Heart disease	18.34	17.56		18.15
27	Gout .....	.13			.13
28	Varicose veins, varicocele, hemorrhoids	64.06	37.32		62.49
29	Hernia	7.36	14.87		7.72
30	Flat feet	2.62	3.29		2.96

INTERNATIONAL TABLE II.—*Movements of sick by departments.**

[Containing the data of Tables II and III of the series suggested by the International Commission.]

	Mean strength.	Admitted sick—			Sick disposed of.				Total days sick.
		To quarters.	To hospitals.	Total admissions.	Returned to duty (recovered).	Died. ²	Otherwise disposed of.	Total.	
Department of California	1,305	490	833	1,323	1,274	4	26	1,317	14,845
Department of the Colorado	3,158	1,350	1,891	3,241	3,146	30	119	3,395	36,415
Department of the Columbia	1,462	403	591	994	942	2	44	988	11,669
Department of Dakota	3,322	1,414	1,681	3,095	3,036	7	90	3,133	34,373
Department of the East	6,790	3,186	5,108	8,332	8,093	22	263	8,418	85,495
Department of the Missouri	3,815	2,011	2,391	4,402	4,294	18	160	4,405	48,421
Department of the Platte	2,220	1,141	1,384	2,525	2,454	16	71	2,541	28,341
Department of Texas	1,752	1,162	1,511	2,673	2,589	14	69	2,698	32,697
General hospital and at large	31		19	19	61	1	18	81	4,349
Total Army	23,824	11,137	15,467	26,604	25,878	90	537	26,505	289,423
In 1,000 of mean strength. In 1,000 sick disposed of.									
	Total admissions.	Admitted to hospital.	Deaths.	Returned to duty.	Died.	Otherwise disposed of.	Of mean strength.	Of total sick disposed of.	Average days sickness to each person.
Department of California	969.24	616.28	2.93	967.33	3.04	29.61	10.00	11.22	
Department of the Colorado	1,626.29	598.80	3.17	1,633.25	3.06	32.96	11.00	11.36	
Department of the Columbia	729.81	433.92	1.47	953.44	2.03	44.62	12.13	11.14	
Department of Dakota	931.67	506.02	2.11	969.04	2.23	26.78	10.41	11.17	
Department of the East	4,227.19	760.83	4.71	4,001.40	3.80	34.00	12.02	10.39	
Department of the Missouri	1,153.87	626.74	3.41	972.53	2.95	24.65	12.30	10.91	
Department of the Platte	1,112.60	620.91	7.18	965.76	6.30	27.04	12.07	11.19	
Department of Texas	1,525.69	862.44	7.69	1,003.89	5.21	30.99	10.74	11.28	
General hospital and at large	612.90	612.90	32.20	753.08	12.35	224.57	224.16	204.81	
Total Army	1,116.69	619.22	4.16	964.37	3.09	31.94	10.79	11.22	

*Officers and citizen employees are not included.

*Exclusive of suicides and fatal accidents.

INTERNATIONAL TABLE III.—Movements of sick by branches of military service¹ and by months.

[No. IV of the international series of tables.]

ARMS OF SERVICE.	Mean strength.	Absolute numbers.					Proportions per 1,000.				
		Sick admissions.		Sick disposed of—			In 1,000 of mean strength there were—			In 1,000 sick disposed of there were—	
		Total	To hospital.	Total	As fit for duty (recovered)	By dentals	Total sick admissions.	Admissions to hospital.	Deaths	Fit for duty (recovered)	Deaths.
Infantry	12,204	11,517	6,479	11,701	11,112	86	936.80	527.01	7.00	958.68	7.42
Cavalry	5,731	7,807	4,329	7,048	7,399	34	1,327.35	755.37	5.93	967.44	4.45
Artillery	3,487	4,330	2,763	4,339	4,241	25	1,241.76	798.11	7.17	995.28	5.70
Ordnance	720	571	112	580	568	3	793.00	155.56	4.17	962.07	5.17
Engineers	404	867	898	671	639	4	1,477.50	857.76	8.62	962.12	5.06
Medical Department	693	346	218	361	333	6	490.28	314.57	8.66	922.44	16.63
All others	435	1,566	1,144	1,662	1,576	9	3,600.00	2,639.08	20.69	948.26	5.41
MONTHS.											
January	24,344	2,457	1,461	2,379	2,239	21	100.93	60.01	.86	941.15	8.88
February	24,263	1,928	1,083	2,079	2,004	14	79.46	44.63	.58	963.93	0.73
March	24,289	2,265	1,318	2,222	2,129	14	93.26	54.27	.58	964.14	6.80
April	24,188	2,032	1,205	2,083	2,007	11	84.01	49.62	.45	963.51	5.28
May	23,961	2,251	1,261	2,333	2,256	12	93.94	52.62	.50	967.00	5.14
June	23,822	2,079	1,251	2,042	1,964	13	86.89	52.51	.50	961.80	5.88
July	22,860	2,383	1,246	2,383	2,291	23	104.25	54.25	.96	961.39	9.28
August	23,630	2,511	1,342	2,500	2,408	15	74.66	39.90	.45	963.26	6.00
September	23,624	2,234	1,323	2,263	2,181	15	94.57	56.00	.63	963.76	6.63
October	23,409	2,428	1,481	2,460	2,294	12	103.72	63.27	.51	969.57	5.07
November	23,839	2,098	1,249	2,184	2,123	6	88.61	52.39	.25	967.64	2.78
December	23,724	1,947	1,253	2,061	1,982	13	82.66	52.81	.55	961.67	6.81

¹Officers and citizen employees are not included.

INTERNATIONAL TABLE IV.—Movements of sick by larger garrisons—proportion per thousand.

[No. V of the international series.]

Garrisons.	Mean enlisted strength.	In 1,000 of mean strength.			Garrisons.	Mean enlisted strength.	In 1,000 of mean strength.		
		Total admissions.	Admissions to hospital.	Deaths.			Total admissions.	Admissions to hospital.	Deaths.
Fort Adams, R. I.	261	1,000.00	521.07	...	Fort Meade, S. Dak. ..	378	1,582.01	1,190.45	5.29
Angel Island, Cal.	270	566.67	548.15	3.76	Fort Missoula, Mont. ..	214	585.42	439.25	...
Fort Assiniboine, Mont.	427	845.43	613.58	2.34	Fort Monroe, Va.	472	1,097.46	504.24	8.47
Fort Bayard, N. Mex.	313	671.89	530.36	6.39	Fort Myer, Va.	239	2,209.20	953.28	8.37
Benicia Barracks, Cal.	200	935.00	500.00	...	Fort Niagara, N. Y.	305	907.32	780.48	...
Fort Bliss, Tex.	277	1,433.21	447.65	18.05	Fort Niobrara, Nebr. ..	368	1,250.00	733.70	8.16
Fort Buford, N. Dak.	275	858.19	669.09	7.27	Fort Omaha, Nebr.	474	1,198.32	348.10	14.77
Fort Clark, Tex.	341	1,659.83	873.91	8.80	Presidio of San Francisco, Cal.	454	1,290.75	1,028.64	4.41
Columbus Barracks, Ohio	509	1,471.52	377.22	9.82	Fort Reno, Okla.	285	1,192.45	1,075.47	...
Fort Custer, Mont.	327	250.94	250.94	6.12	Fort Riley, Kans.	605	1,241.32	421.49	4.96
Fort D. A. Russell, Wyo.	390	982.05	689.23	7.69	Fort Robinson, Nebr. ..	427	1,142.86	793.91	7.03
Devils Island, N. Y.	354	1,361.58	632.77	5.65	Fort Sam Houston, Tex. ..	519	1,500.96	1,007.73	11.50
Fort Douglas, Utah.	441	1,251.70	866.21	11.34	Fort Sheridan, Ill.	583	1,218.16	726.21	5.86
Fort Grant, Ariz.	279	1,229.39	910.39	...	Fort Sherman, Idaho.	289	692.04	321.80	10.38
Fort Hamilton, N. Y.	252	1,206.35	1,079.37	...	Fort Sill, Okla.	298	1,197.99	459.73	6.71
Fort Huachuca, Ariz.	268	746.53	298.61	3.47	Fort Snelling, Minn.	467	845.82	479.66	6.42
Jefferson Barracks, Mo.	313	1,373.81	1,316.29	...	Fort Thomas, Ky.	379	1,171.50	846.97	7.92
Fort Keogh, Mont.	414	1,292.27	285.02	4.83	Vancouver Barracks, Wash.	404	490.10	410.89	2.46
Fort Leavenworth, Kans.	624	1,240.38	607.37	12.82	Washington Barracks, D. C.	297	1,885.52	377.11	3.37
Fort Logan, Colo.	395	1,078.48	734.18	7.60	Fort Wayne, Mich.	220	631.62	300.00	4.56
Madison Barracks, N. Y.	376	521.28	367.02	7.98	West Point, N. Y.	339	1,368.73	522.12	5.90
Fort McKinney, Wyo.	242	1,318.97	672.42	4.31	Whipple Barracks, Ariz.	234	811.07	504.02	8.56
Fort McPherson, Ga.	327	507.65	431.19	12.23	Willots Point, N. Y.	391	1,170.03	808.18	10.2
					Fort Wingate, N. Mex.	330	1,723.21	795.71	...
					Fort Yates, N. Dak.	251	1,310.76	505.96	3.96

INTERNATIONAL TABLE V.—Movements of sick according to most important diseases.
[Nos. VI and VII of the international series of tables.]

No.	Diseases of the international nosological table.	Remaining undischarged at close of Year 1893.	Admitted in 1894.	Disposition of in 1894—			Total remaining undischarged at close of 1894.	Total days sick in 1894.	In 1,000 of mean strength.		In 1,000 disposed of—		Sick days to each case of the total disposed of.	
				Total and admitted.	As fit for duty (recovered).	Died.			Other-wise.	Total.	Admissions.	Deaths.		Fit for duty (recovered).	Died.	Other-wise.
1	Alcoholismus acutus, including delirium tremens.	10	716	726	686	17	17	709	3,098	30.06	27	966.20	23.94	4.27
2	Bronchitis acuta.	12	696	708	679		17	691	4,206	20.22		982.64	17.36	5.94
3	Cholera asiatica.		106	106	106			106	323	4.45		1,000.00		3.05
4	Cholera nostras.		17	17	13		4	13	297	.71		1,000.00		17.47
5	Diphtheria et croup.		73	75	71		1	74	841	3.06	12	959.46	40.54	11.75
6	Dysenteria.	2	45	46	40		3	43	770	1.89		930.23	69.77	16.74
7	Erysipelas.	1												
8	Febris intermittens (malaria).	11	1,463	1,474	1,450		15	1,465	8,455	61.41		989.76	10.24	5.74
9	Febris recurrens.	8	330	338	320		10	331	6,929	13.85	.04	966.77	30.21	20.50
10	Gonorrhoea.	67	1,171	1,238	1,127		48	1,177	24,256	49.15	.08	957.52	40.78	19.60
11	Hernia.	6	56	62	20		38	58	1,864	2.35		344.83	655.17	30.06
12	Influenza.	96	793	889	868		17	886	5,996	33.29	.04	979.68	19.19	6.74
13	Insolutio (hitzschlag, coup de chaleur).		74	74	70		3	74	617	3.11	.04	945.94	40.54	8.34
14	Meningitis cerebro spinalis epidemica.		1	1				1	17	.04	.04			17.00
15	Morbilli.	13	72	85	82		2	84	993	3.02		976.19	23.81	11.68
16	Parotitis epidemica.	5	203	208	195		8	203	2,657	8.52		960.59	39.41	12.77
17	Pneumonia crouposa sive lobaris.	6	69	75	50		6	71	2,302	2.90	.63	694.44	83.34	30.70
18	Rheumatismus articulorum.	52	417	469	416		28	444	12,687	17.50		936.94	63.06	27.05
19	Scarlatina.		3	3	3			3	123	.13		1,000.00		41.00
20	Scorbutus.													
21	Syphilis.	35	308	343	276		43	319	12,250	12.98	.04	862.50	134.87	35.72
22	Trachoma.	1	8	9	9			9	196	.34		1,000.00		21.78
23	Tuberculosis pulmonum.	15	69	84	14		49	77	5,415	2.90	.55	181.81	636.38	64.46
24	Tuberculosis ceterorum organorum.		5	5	4			5	870	.21	.04	800.00		74.00
25	Typhus abdominalis.	25	151	176	140		20	160	7,947	6.34	.78	875.00		45.16
26	Typhus exanthematicus.													
27	Varicela.													
28	Morbi auris.	4	135	139	121		9	132	1,780	5.67	.08	916.67	68.18	12.45
29	Morbi cordis.	11	95	106	73		22	99	2,756	3.99	.27	715.09	215.08	26.02
30	Morbi cutis.	32	1,785	1,817	1,761		22	1,783	15,038	74.92		987.66	12.34	8.28
31	Morbi mentis.	36	1,625	1,661	1,523		84	1,621	12,293	68.21	.74	936.66	51.66	8.00
32	Morbi oculi.	13	412	425	376		36	412	6,429	17.29		912.62	87.38	15.13
33	Morbisystemat. urin. et sexual.(excl. ven. et. syph.)	10	234	244	202		26	231	5,759	9.82	.12	874.46	112.55	23.60

! One death not on sick report included.

! Three deaths not on sick report included.

! Five deaths not on sick report included.

INTERNATIONAL. TABLE VI.—Admissions of important diseases by branches of military service.

[No. VIII of the international series of tables.]

No.	Diseases of the international nosological table.	Absolute number of admissions.							Admission per 1,000 of mean strength.						
		Infantry.	Cavalry.	Artillery.	Ordnance.	Engineers.	Medical department.	All others.	Infantry.	Cavalry.	Artillery.	Ordnance.	Engineers.	Medical department.	All others.
1	Alcoholismus acutus, including delirium tremens...	417	100	117	13	37	7	25	33.92	17.45	33.55	18.06	79.74	10.10	57.47
2	Bronchitis acuta.....	266	198	119	20	46	8	39	21.64	34.55	34.13	27.78	99.13	11.54	89.65
3	Cholera asiatica.....														
4	Cholera nostras.....	33	26	11	6	8	3	19	2.68	4.54	3.15	8.33	17.24	4.33	43.68
5	Diphtheria et croup.....	17							1.38						
6	Dysenteria.....	21	29	4	2		1	16	1.71	5.06	1.15	2.78		1.44	36.78
7	Erysipelas.....	25	10	4	2			4	2.03	1.75	1.15	2.78			9.20
8	Febris intermittens (malaria).....	285	495	553	12	42	22	54	23.18	86.37	158.59	16.67	90.52	31.75	124.13
9	Febris recurrens.....	121	126	41	5	2	15	20	9.84	21.99	11.76	6.94	4.31	21.64	45.98
10	Gonorrhoea.....	541	354	166	7	9	9	85	44.01	61.77	47.61	9.72	19.40	12.99	195.41
11	Hernia.....	22	16	8	4	3		3	1.79	2.79	2.29	5.56	6.47		6.90
12	Influenza.....	276	268	123	56	21	24	25	22.45	46.76	35.28	77.78	45.26	34.63	57.47
13	Insolatio (hitzschlag, coup de chaleur).....	41	15	4	1		1	12	3.33	2.62	1.15	1.39		1.44	27.59
14	Meningitis cerebro spinalis epidemica.....										.29				
15	Morbili.....	37	11	8			7	9	3.01	1.92	2.29			10.10	20.69
16	Parotitis epidemica.....	73	26	61			5	38	5.94	4.54	17.49			7.22	87.36
17	Pneumonia crouposa sive lobaris.....	42	16	5		2	1	3		2.79	1.43		4.31	1.44	6.90
18	Rheumatismus articulorum.....	219	86	55	10	8	15	24	17.81	15.01	15.77	13.89	17.24	21.64	55.17
19	Scarlatina.....		2	1						.85	.29				
20	Scorbutus.....														
21	Syphilis.....	142	68	72	3	10	1	12	11.55	11.87	20.65	4.17	21.55	1.44	27.59
22	Trachoma.....	3	5						.24	.87					
23	Tuberculosis pulmonum.....	43	12	5	1	1	1	6	3.50	2.09	1.43	1.39	2.16	1.44	13.79
24	Tuberculosis ceterorum organorum.....	3	1					1	.24	.17					2.30
25	Typhus abdominalis.....	80	45	21	3		1	1	6.51	7.85	6.02	4.17		1.44	2.30
26	Typhus exanthematicus.....														
27	Varicella.....														
28	Morbi auris.....	61	37	22	3	1	2	9	4.96	6.46	6.31	4.17	2.16	2.89	20.69
29	Morbi cordis.....	54	13	15		2	2	9	4.39	2.27	4.30		4.31	2.89	20.69
30	Morbi cutis.....	767	542	295	25	50	13	93	62.39	94.57	84.60	34.72	107.77	18.76	213.79
31	Morbi mentis.....	858	311	275	43	57	30	51	69.79	54.27	78.86	59.72	122.84	43.29	117.23
32	Morbi oculi.....	217	117	38	8	8	7	22	17.65	20.42	10.90	4.17	17.24	10.10	50.57
33	Morbi systemat. urin. et sexual.(excl.ven. et syph.)..	127	50	33	3	5	3	13	10.33	8.72	9.46	4.17	10.78	4.33	29.89

INTERNATIONAL TABLE VII.—Admissions of important diseases by months (absolute numbers).
[No. IX of the international series of tables.]

No.	Diseases of the international nosological table.	Admissions by months.											
		Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	Alcoholismus acutus, including delirium tremens.	60	49	53	51	71	44	55	77	60	65	56	74
2	Bronchitis acuta.	97	87	74	58	32	28	19	27	38	75	88	73
3	Cholera asiatica.												
4	Cholera nostras.	4	2	2	5	2	12	32	19	19	8	1	
5	Diphtheria et croup.	3	3			2				1	3	1	4
6	Dysenteria.	2	2		4	8	11	18	7	7	9	4	1
7	Erysipelas.	3	2		5	3	5	2		2	6	1	5
8	Febris intermittens (malaria).	35	28	57	100	157	150	124	147	278	220	110	57
9	Febris recurrens.	7	4	8	7	15	37	35	62	52	61	29	13
10	Gonorrhoea.	108	70	111	100	90	92	86	94	100	115	117	88
11	Hernia.	7	4	4	1	5	9	3	8	7	3	4	1
12	Influenza.	385	173	121	45	7	6	3	3	6	8	10	16
13	Insolatio (hitzschlag, coup de chaleur).		1		2	3	22	29	16	1			
14	Meningitis cerebro spinalis epidemica.												
15	Morbili.	2	3	8	33	18	4	3					1
16	Parotitis epidemica.	8	11	29	28	33	30	20	11	9	3	6	15
17	Pneumonia crouposa sive lobaris.	11	17	10	5	1	4	3	1		7	5	5
18	Rheumatismus articulorum.	43	35	57	30	29	26	23	38	28	35	34	39
19	Scarlatina.		1				1			1			
20	Scorbutus.												
21	Syphilis.	40	32	23	30	16	25	21	19	25	22	26	29
22	Trachoma.	1		1			1			1	1	2	1
23	Tuberculosis pulmonum.	14	11	6	3	7	2	7	3	8	5	3	
24	Tuberculosis ceterorum organorum.	1	1	1	1						1		
25	Typhus abdominalis.	3		1									3
26	Typhus exanthematicus.												
27	Variole.						1	8	50	42	27	9	
28	Morbi auris.	16	9	10	13	9	14	12	12	10	5	10	15
29	Morbi cordis.	10	6	7	10	7	10	1	6	10	11	9	8
30	Morbi cutis.	129	106	135	146	179	176	171	187	144	175	122	115
31	Morbi mentis.	128	112	135	116	149	130	118	172	141	139	139	146
32	Morbi oculi.	32	38	55	38	48	33	35	35	22	26	29	21
33	Morbi systemat. urin. et sexual. (excl. ven. et syph.).	31	23	23	19	22	15	15	16	18	20	16	16

INTERNATIONAL TABLE VIII.—Deaths according to years of service and age.

[No. X of the international series of tables.]

Causes of death.	Deaths.				
	Years of service.		Ages.		
	First year.	Second year and over.	Twentieth to twenty-fifth year.	Twenty-sixth to thirtieth year.	Thirty-first year and over.
From diseases.....	14	96	24	33	53
Suicides ¹	2	16	3	6	9
Accidents and injuries.....	2	55	17	18	22
Total.....	16	151	41	51	75

¹ Included in "accidents and injuries."

Respectfully submitted.

GEO. M. STERNBERG,
Surgeon-General, United States Army.

Hon. DANIEL S. LAMONT,
Secretary of War.

REPORT OF THE PAYMASTER-GENERAL.

ANNUAL REPORT OF THE PAYMASTER-GENERAL.

WAR DEPARTMENT,
PAYMASTER-GENERAL'S OFFICE,
Washington, D. C., September 21, 1895.

SIR: I have the honor to submit the following as the report of this office for the fiscal year ended June 30, 1895:

July 1, 1894, officers of the Pay Department were charged with public funds aggregating	\$1, 031, 728. 61
During the fiscal year 1895 these officers received—	
From the United States Treasury	14, 011, 967. 35
From soldiers' deposits	318, 270. 73
From army paymasters' collections	232, 078. 14
	<hr/>
Total balances and receipts	15, 594, 044. 83
Accounted for as follows:	
Expended on account of pay of Army	13, 220, 631. 71
Expended on account of mileage to officers	127, 728. 21
Expended on account of pay of Military Academy	224, 311. 71
Expended on account of pay of volunteers (Treasury certificates)	573, 304. 67
Surplus funds deposited to credit United States Treasurer	199, 670. 65
Army paymasters' collections deposited to credit United States Treasurer	232, 078. 14
Balances charged officers June 30, 1895	1, 016, 319. 74
	<hr/>
Total	15, 594, 044. 83

In considering the appropriation for pay, etc., of the Army, 1895, it is found that the amount appropriated will be inadequate to meet the required disbursements.

The amount appropriated, including mileage, was	\$13, 040, 934. 68
The amount disbursed to June 30, 1895	12, 498, 730. 26
	<hr/>
Balance available for disbursement	542, 264. 42
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It is estimated that it will require, to complete payments for the year 1895, at least

1, 050, 000. 00

There is available for this purpose the following:

Balance June 30, 1895	\$542, 264. 42
Amount received on account of soldiers' deposits	318, 270. 73
Amount received on account of collections (pay 1895)	127, 003. 87
Amount received on account of purchase of discharge ..	19, 333. 37
	<hr/>
	1, 006, 872. 39
	<hr/>
Deficiency in amount required	43, 127. 61

In explanation of the above deficiency it may be stated that, while the appropriation made by Congress was far below the amount estimated as required, new legislation was enacted which necessitated increased expenditures from an already reduced appropriation.

During the last year there have been increased expenditures on account of the following items, for which no specific appropriation was made:

Interest on retained pay to discharged soldiers; increased pay to chief musicians, artificers, and wagoners; repayment of detained pay on final statements, irrespective of year detained, instead of repayment for the fiscal year in which it was detained; for payment to one Lieutenant-General of the Army and his aids, and, by act of February 12, 1895, the pay of enlisted men serving in the first year of their enlistment was restored from \$9 to \$13 per month, which item alone, it is estimated, caused an increased expenditure of about \$90,000.

MILEAGE.

The amount appropriated for mileage for the fiscal year 1895 was \$140,000. Of this sum, \$127,635.25 was expended during the year, leaving a balance of \$12,364.75. Of this latter sum, about \$8,000 have been disbursed since June 30, 1895, upon orders issued prior to that date, leaving an actual balance on hand of about \$4,000. It will thus be seen that the requirements of the law have been strictly complied with and with such economy as to leave a small balance still remaining. The following table shows in detail the expenditures from the appropriation:

Mileage disbursements (1895 appropriation) from July 1, 1894, to June 30, 1895.

Change of stations.....	\$42,356.28
European travel.....	2,400.36
Recruiting duty.....	5,691.11
Boards of examination to examine officers.....	11,185.00
Board of Ordnance and Fortifications.....	863.10
Ordnance Department: Gun construction, foundry, steel, powder, and proving-ground inspection.....	2,541.46
Inspection by officers of the Inspector-General's Department.....	5,593.97
Inspection by other than officers of the Inspector-General's Department..	6,495.42
Medical boards and inspection by medical officers.....	1,786.04
Military prison commission and inspection of military prison.....	484.28
Instruction and inspection of National Guard.....	3,313.57
Retiring boards and officers retired and ordered home.....	3,216.46
Payment of troops.....	15,402.23
Treasurer and professors, Military Academy, Military Academy duty....	231.57
Courts-martial (to and from).....	8,011.54
Returning from conducting prisoners and insane men.....	184.72
Boards of survey.....	150.30
Commanding generals and aids.....	5,928.35
Rifle teams.....	7,338.94
Instructions of Secretary of War, duty not defined by orders.....	3,703.32
Duty at World's Columbian Exposition.....	107.36
Attending funerals of officers and other deceased officials.....	640.87
Total.....	127,635.25

SOLDIERS' DEPOSITS.

A table is herewith submitted showing the amounts deposited by the enlisted men of the Army from 1873 to 1895, inclusive, and the number of separate deposits each year.

It is impracticable to give the actual number of men who deposited. Some would deposit small sums regularly every pay day, while others would not deposit more than once or twice a year, or perhaps during their whole period of enlistment.

While from this statement it will be observed that the amount deposited was \$43,560.03 less than for the previous year, yet we find that the number of deposits has increased by 360, which is an evidence that the deposit system is still looked upon favorably by the enlisted men, and every opportunity should be given to extend the system, as the saving of funds in this manner tends, it is thought, to lessen desertions and is conducive to better discipline.

The annual deposits, on an average, meet the deposits repaid.

Recapitulation of soldiers' deposits.

Fiscal year.	Number of deposits.	Amount deposited.	Fiscal year.	Number of deposits.	Amount deposited.
1873		\$209,850.38	1885	7,633	\$427,617.96
1874		346,609.56	1886	7,261	409,031.55
1875		325,255.80	1887	6,889	436,574.98
1876		435,912.68	1888	7,409	386,944.10
1877	5,651	328,585.05	1889	7,829	383,796.34
1878	5,524	346,243.94	1890	7,634	395,128.83
1879	6,807	370,770.38	1891	6,790	403,473.15
1880	8,635	477,174.44	1892	5,570	334,464.70
1881	8,942	524,112.72	1893	5,570	282,242.04
1882	6,890	448,561.83	1894	5,914	361,820.76
1883	7,802	407,544.98	1895	6,294	318,270.73
1884	7,114	389,287.55			

PAY OF RETIRED ENLISTED MEN.

Since date of last annual report the number of enlisted men on the retired list has increased from 892 to 996, an increase of 104.

It is very desirable, as a matter of economy of time and labor, that payment to this class of men be simplified, which can be done by substituting a fixed sum for all grades alike for the varying amounts now allowed for rations and clothing. These men are no longer required to provide themselves with certain prescribed clothing. The necessity for varying rates has ceased, and the men are free to clothe themselves as they choose.

There is, then, no good reason why a fixed sum should not be paid to all grades alike, as was formerly paid to the volunteer soldier. As now paid there are thirty different rates of clothing among some sixty different grades of retired enlisted men of all branches of the service, no two of the same grade, of different arms of the service, receiving the same allowance, and the allowance changing annually or oftener as the cost of the clothing to the Government varies from time to time.

The monthly rates range at present from \$2.29 per month for a private of infantry to \$2.93 per month for a sergeant of the first class of the signal corps, the gradual increase from grade to grade being 1, 2, or 3 cents per month, except in the grade last mentioned, where the increase is about 20 cents per month more than the next lower rate. About 60 per cent of the enlisted men on the retired list are of grades not above sergeant of the line, the other 40 per cent including all the higher grades of the line and the noncommissioned staff.

By the adoption of the plan suggested, if the average rate of, say, \$2.60 per month be allowed for clothing, which will be about three-fourths of the \$3.50 per month formerly allowed to volunteer soldiers for clothing, the higher grades will undergo no material reduction of pay, nor will the lower grades receive any material benefit, while not only will the liability to error on the part of the paymaster be diminished by the substitution of a single fixed rate in the place of thirty constantly varying rates, but much economy of time and labor on the part of the paymaster and his clerk will also follow, a consideration to be borne in mind in view of the proposed change in the manner of paying the Army.

Economy of time and labor in the examination of accounts in this office will also result and partially offset the limited time allowed by law for the retention of accounts in the office, and I can not too strongly urge that legislation to the end suggested be recommended on every principle of economy of time and labor, now rendered so necessary by the recent act of Congress requiring the transmission of accounts to the Auditor within a certain specified time.

I therefore recommend that in lieu of the present amounts paid to retired enlisted men for rations and clothing, they be paid the uniform sum of \$9.50 per month each, in addition to three-fourths of the pay and service pay upon which they were retired.

RETAINED PAY.

The act making appropriations for the support of the Army for the fiscal year ended June 30, 1895, abolished the retention of \$4 per month from enlisted men during the first year of their service. The soldier enlisting since the passage of the act of August 1, 1894, for three years, only has \$1 per month retained during the third year of his service, or \$12, a sum so insignificant as to be of little importance; and it is again urged that the law be so amended as not to require the retention of any pay whatever.

The system grew up, and had some reason for existence, when there were many Army posts scattered over a remote frontier, where, when a soldier was discharged, he had long journeys to make by expensive conveyances before he could reach his place of enlistment. All such conditions have passed away, and the travel allowances upon discharge, as now provided by law, are ample to cover all necessities for transportation and subsistence.

It is recommended that the retention of pay from the soldier be abolished, and leave it so that when a man enlists in the Army, he does so with the plain understanding that he is to receive a certain specific amount, say \$13, for a certain time (two years), after which, having meanwhile served honestly and faithfully, he shall receive with his monthly pay, the \$1 per month now retained during the third year of his service.

Should he then re-enlist under the provisions of the act of August 1, 1894, he shall receive the \$2 per month now retained during the fourth year of his service, and in due time the \$3 per month now retained during the fifth year of his service, and thereafter to be paid under the provisions of sections 1282 and 1284 of the Revised Statutes, except that no pay shall be retained. The man will thus receive, from year to year, during the first five years of his service, compensation for his increased value as a soldier, by which time he will have become accustomed to the restraints of the service, and less liable to abandon it either by purchase or desertion.

A better class of men will no doubt be attracted by the certainty of an increased rate of pay after a short time, and ultimately both the soldier and the service will be greatly benefited. The settlement of his accounts by the Pay Department and the accounting officers of the Treasury will also be much simplified.

CREDIT SALES OF SUBSISTENCE STORES TO ENLISTED MEN.

It is recommended that section 1144 of the Revised Statutes be so amended as to permit credit sales of subsistence stores to enlisted men only when in the field, or where they can not be promptly paid. The post exchange furnishes at about cost price a large number of articles not included in the service ration. The soldier is permitted to purchase articles there on credit extending to one-fifth of his pay, and under the section of the Revised Statutes above referred to, he is permitted to purchase from the post commissary, on credit, to the extent of his unencumbered pay, not exceeding in any month the amount of his monthly pay. The result is that when he is paid at the end of the month his pay is mostly, if not entirely, absorbed in paying these debts, oftentimes leaving him still owing the company tailor, laundress, and others. In other words, the credit system invites continual indebtedness and should not be encouraged; nor should it be permitted where Government stores are involved, except when the exigencies of the service warrant it.

ONE COMMON PAY CHEST FOR THE ARMY.

It is again urged, as a business proposition and in the interest of economy and efficient service, that the entire appropriation for the maintenance of the Army should be paid from one common pay chest, by a corps of officers commissioned and bonded for that purpose, under

instructions to be provided by the Secretary of War. This system prevails in some of the largest European armies, and is approved by many officers of high rank and long experience in our own. It would greatly simplify the money accountability, and leave other staff departments free from the labor and responsibility pertaining to the disbursement of public funds. The officers of the Pay Department now disburse 60 per cent of the entire appropriation for the support of the Army, and there would seem to be no good reason why they should not disburse the remaining 40 per cent. The Pay Department also makes collection of stoppages in favor of other staff departments and accounts for them to the Treasury, and it must be perfectly apparent that the whole system of army disbursements would be much simplified if it were placed under one control, instead of being divided up among many departments. Indeed, there is no reason why the officers of the Pay Department should not disburse all sums which the Government provides for under the various appropriations pertaining to army affairs, including those for river and harbor improvements and for the construction of ordnance.

BONDED AND NON-BONDED DISBURSEMENTS.

The custom of bonding Government disbursing officers is one which has yielded small results in the matter of making good the amounts lost. Nevertheless, it would not be advisable to abandon it. On the contrary, it should be extended to include all officers of the Army who disburse public funds. If it be advisable to bond officers of one department intrusted with disbursement of the money of the Government, it would seem proper and advisable that officers of all other departments, and of the line, intrusted with such responsibility, should also be bonded. About twice as much money was disbursed without bond during the last fiscal year, as would be required to pay the Army.

PAY OF VOLUNTEERS—TREASURY CERTIFICATES.

During the past fiscal year the expenditures on account of pay of volunteers was \$624,570.77, being an increase of \$212,760 over the preceding year. To make these payments required the writing of over 16,000 checks, covering more than 9,000 vouchers.

These payments were made by Maj. Charles I. Wilson.

PERSONNEL.

The act of February 12, 1895, making appropriations for the support of the Army, provides that there shall be no more appointments to the grade of major in the Pay Department until the number of officers in that grade shall be reduced below 20, and thereafter that number not to be exceeded. The retirement of Maj. W. H. Eckels, February 11, 1895, and of Brig. Gen. William Smith, March 26, 1895, leaves the number of majors at 23. The suspension of one, Maj. J. W. Wham, to the

date of his retirement, January 18, 1904, leaves the number for working purposes at 22. Maj. W. M. Maynadier has been found incapacitated, and is awaiting retirement. Three retirements will occur within a year by reason of age limit, which will reduce the number below the limit fixed by law, and make a new appointment possible. In my opinion, the number of majors should not be less than 25, and it would be in the interest of the service to establish that limit to provide for all emergencies, and require that all disbursements to the Army be made by the Pay Department.

Were all disbursements of the military establishment made by one bureau, they would be easily controlled, and information concerning them quickly obtained.

The duties of post paymaster at this station, now filed by Maj. J. C. Muhlenberg, are of the most laborious character, and should properly be divided between two paymasters. During the past year Major Muhlenberg disbursed \$1,631,441.83, on 8,520 vouchers; a much larger sum than was disbursed at any other station by one paymaster.

In conclusion, it gives me pleasure to express my commendation of the clerks of this office for the manner in which, by great attention and unremitting industry, they have discharged their laborious duties, kept up the business of the Bureau, and forwarded paymasters' accounts to the Auditor within the time prescribed by the act of July 31, 1894.

In order to relieve the strain upon the force now authorized by law, I would respectfully recommend that two more clerks be asked for, although not included in the estimate for the coming year.

Very respectfully,

T. H. STANTON,

Paymaster-General, United States Army.

The SECRETARY OF WAR.

REPORT OF THE SECRETARY OF WAR.

Statement showing the number of pay trips made, number of days consumed in travel, posts paid, and amount of field and office disbursements made by each disbursing officer of the Pay Department, United States Army, during the fiscal year ended June 30, 1895.

Rank and name.	No. of pay trips.	Days consumed.	No. of posts paid.	Miles traveled.			Payments.		Mileage paid to paymaster's clerks.
				Ambulance.	Stage.	Railroad.	Steamer.	(Other conveyances.)		Total.
Paymaster-general.									
Stanton, Thaddeus H.	3	24	12	45		4,500		4,554	\$298.70
Assistant paymaster-general.									
Terrill, Charles M.	11	72	21	509		3,463		3,977	259.28
Glenn, George E.	3	17	12	86		3,480	11	3,491	264.76
Deputy paymaster-general.									
Canby, James P.	12	26	12			6,884		6,884	348.36
Cander, George W.	11	51	34	103		9,268		9,311	605.87
Carey, Asa F.	18	48	101			3,287	1,245	4,532	287.02
Paymasters.									
Coar, Frank M.	37	88	41	136		4,764	3,123	7,887	521.90
Reeve, Alfred E.	10	60	52	388	246	3,011		3,056	296.36
Wilson, C. Irving.	1	9	17	14		1,155		1,167	78.69
Eckels, William H.	4	29	17			4,070	1,088	5,158	341.94
Tower, Albert S.	33	61	64	66		6,551		6,551	402.40
Maynader, William M.	5	18	30	57		2,284		2,284	14.86
Arthur, William	11	61	34	204		9,150		9,150	688.84
Keeler, John R.	10	28	46	42		4,805		4,805	318.80
Wham, Joseph W.	5	9	9			2,250		2,250	63.76
Raiben, Culver C.	15	103	62	688		18,565		18,565	1,177.50
Baird, George W.	12	55	63	112		9,316		9,316	594.04
Robinson, George F.	12	74	23	691	85	9,479		9,564	640.44
Dodger, Francis S.	29	57	46	862		9,049		9,049	632.54
McClure, Charles	12	41	30	372	120	11,053		11,173	800.82
Whipple, John S.	7	70	30	1,004		10,053		10,053	519.97
Cones, Charles H.	12	43	57	364		10,053		10,053	691.83
Cones, William H.	15	78	34	216		13,167		13,167	900.80
Tucker, William F.	11	77	46	640		4,738		4,738	323.66
Muhlenberg, John C.	13	64	63	144		9,317		9,317	632.61
Smith, George E.	29	71	39	1,461		8,138		8,138	530.86
Baker, John P.	15	70	23	106		4,119		4,119	274.74
Hallford, Eliza W.	11	30	22	106		4,119		4,119	274.74
Kanner, William H.	8	43	16	1,010		12,969		12,969	857.18
Kubonrae, Charles E.	10	80	42	862		12,969		12,969	857.18
Total	364	1,631	1,134	11,228	789	211,004	17,479	228,483	14,736.75

Estimated from column March 27, 1897.

Estimated from column March 27, 1898.

Estimated from column March 27, 1899.

Estimated from column March 27, 1900.

¹ Promoted from colonel March 27, 1895. ² Promoted from lieutenant-colonel March 27, 1895. ³ Promoted from major March 27, 1895. ⁴ Retired February 11, 1896.

Statement by appropriations of approved and suspended disbursements in paymasters' accounts during the fiscal year ended June 30, 1895, showing also balance of suspensions remaining June 30, 1894, removed during the fiscal year, and the balance remaining June 30, 1895.

Title of appropriations.	Disbursements.		Suspensions.				
	Total.	Approved.	Suspended.	Amount of suspensions on books June 30, 1894.	Total sus-pensions.	Amount of suspensions removed during fiscal year ended June 30, 1895.	Amount of suspensions remaining on books June 30, 1895.
Pay, etc., of the Army, 1895.....	\$12,370,112.32	\$12,365,112.08	\$4,970.24	.....	\$4,970.24	\$3,958.33	\$1,011.91
Mileage to officers traveling without troops, 1895.....	127,728.21	127,543.18	185.03	.....	185.03	.....	40.99
Pay of the Military Academy, 1895.....	193,542.39	193,542.39	.....	.....	.....	.....	.....
Pay, etc., of the Army, 1894.....	822,029.80	821,133.96	895.84	\$3,189.13	4,084.97	3,504.02	3,504.02
Pay of the Military Academy, 1894.....	30,769.32	30,685.99	83.33	416.65	499.98	499.98	.....
Pay, etc., of the Army, 1893.....	8,148.23	8,148.23	.....	341.04	341.04	227.02	114.02
Pay of the Military Academy, 1893.....	.....	.....	.....	175.99	175.99	175.99	.....
Pay, etc., of the Army, 1892.....	440.70	440.70	.....	.....	.....	.....	.....
Pay, etc., of the Army, 1892, and prior years.....	.....	.....	.....	6,866.17	6,866.17	670.50	6,195.67
Bounty to Fifteenth and Sixteenth Missouri Cavalry Volunteers.....	1,233.29	1,233.29	.....	.....	.....	.....	.....
Extra pay to officers and men who served in the Mexican war.....	447.00	447.00	.....	.....	.....	.....	.....
Three months' pay proper.....	915.00	915.00	.....	.....	.....	.....	.....
Certified claims.							
Pay, etc., of the Army.....	19,900.66	19,900.66	.....	.....	.....	.....	.....
Pay of 2 and 3 years' volunteers.....	332.10	332.10	.....	.....	.....	.....	.....
Pay of 2 and 3 years' volunteers, 1891.....	272.77	272.77	.....	.....	.....	.....	.....
Pay of 2 and 3 years' volunteers, 1892.....	906.93	906.93	.....	.....	.....	.....	.....
Pay of 2 and 3 years' volunteers, 1893.....	1,161.21	1,161.21	.....	.....	.....	.....	.....
Pay of 2 and 3 years' volunteers, 1894.....	26,260.02	26,260.02	.....	.....	.....	.....	.....
Pay of 2 and 3 years' volunteers, 1895.....	294,369.26	294,369.26	.....	.....	.....	.....	.....
Bounty to volunteers, widows and legal heirs.....	697.67	697.67	.....	.....	.....	.....	.....
Bounty to volunteers, widows and legal heirs, 1891.....	380.00	380.00	.....	.....	.....	.....	.....
Bounty to volunteers, widows and legal heirs, 1892.....	984.06	984.06	.....	.....	.....	.....	.....
Bounty to volunteers, widows and legal heirs, 1893.....	747.60	747.60	.....	.....	.....	.....	.....
Bounty to volunteers, widows and legal heirs, 1894.....	24,541.79	24,541.79	.....	.....	.....	.....	.....
Bounty to volunteers, widows and legal heirs, 1895.....	192,546.78	192,546.78	.....	.....	.....	.....	.....
Bounty under act of July 28, 1866.....	187.50	187.50	.....	.....	.....	.....	.....
Bounty under act of July 28, 1866, 1892.....	50.00	50.00	.....	.....	.....	.....	.....
Bounty under act of July 28, 1866, 1893.....	150.00	150.00	.....	.....	.....	.....	.....
Bounty under act of July 28, 1866, 1894.....	3,468.31	3,468.31	.....	.....	.....	.....	.....
Bounty under act of July 28, 1866, 1895.....	23,258.50	23,258.50	.....	.....	.....	.....	.....
Pay of volunteers, Mexican war.....	11.91	11.91	.....	.....	.....	.....	.....
Traveling expenses of First Michigan Cavalry.....	176.74	176.74	.....	.....	.....	.....	.....
Traveling expenses of California and Nevada volunteers.....	131.23	131.23	.....	.....	.....	.....	.....
Pay of Mounted Riflemen under Lieut. Col. John C. Fremont.....	75.00	75.00
Total.....	14,145,976.30	14,139,841.86	6,134.44	10,988.96	17,123.42	9,173.88	7,949.54

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Statement of the account of the Pay Department, United States Army, with the

Appropriations.	In account with the Treasury.				
	Balance in the Treasury July 1, 1894.	Amount of appropriations and transfer warrants.	Unexpended balances deposited.	Paymasters' collections deposited.	Repayments in settlement of accounts.
Pay, etc., of the Army, 1895.....		\$12,900,984.68		\$121,485.97	\$13,124.54
Pay of Military Academy, 1895.....		233,223.78			
Mileage to officers traveling without troops, 1895.....		140,000.00		135.04	23.78
Pay, etc., of the Army, 1894.....	342,223.56		168,265.93	23,659.24	3.92
Pay of Military Academy, 1894.....	7,115.08	512.00	2,296.01		
Contingencies, headquarters military departments, 1894.....			47.70		
Pay, etc., of the Army, 1893.....	673,878.80	3,000.00	.22	493.30	
Pay of Military Academy, 1893.....	23,801.58	125.00	1,100.66		
Pay, etc., of the Army, 1892 and prior years.....			1,808.91	992.25	144.70
Pay of 2 and 3 year volunteers, 1871 and prior years.....					348.83
Bounty under act of July 28, 1866, indefinite.....					100.00
Bounty to 15th and 16th Missouri Cavalry Volunteers, indefinite.....		1,233.29			
Extra pay to officers and men who served in the Mexican war, indefinite.....		447.00			
Three months' pay proper, indefinite.....		915.00			
<i>Certified claims.</i>					
Pay, etc., of the Army.....	129.96	22,735.00		546.02	
Pay of 2 and 3 year volunteers.....	5,513.91				
Pay of 2 and 3 year volunteers, 1891.....		272.77			
Pay of 2 and 3 year volunteers, 1892.....		906.93			
Pay of 2 and 3 year volunteers, 1893.....	195,429.86				
Pay of 2 and 3 year volunteers, 1894.....	226,968.31		15,000.00		8.32
Pay of 2 and 3 year volunteers, 1895.....		300,000.00			
Bounty to volunteers, their widows and legal heirs.....	18,117.62				
Bounty to volunteers, their widows and legal heirs, 1891.....		380.00			
Bounty to volunteers, their widows and legal heirs, 1892.....		984.06			
Bounty to volunteers, their widows and legal heirs, 1893.....	49,080.12				
Bounty to volunteers, their widows and legal heirs, 1894.....	80,000.00		4,000.00		19.00
Bounty to volunteers, their widows and legal heirs, 1895.....		200,000.00			
Bounty under act of July 28, 1866.....	2,297.45				
Bounty under act of July 28, 1866, 1892.....		50.00			
Bounty under act of July 28, 1866, 1893.....	7,387.27				
Bounty under act of July 28, 1866, 1894.....	10,000.00		3,500.00		
Bounty under act of July 28, 1866, 1895.....		25,000.00			
Pay of mounted riflemen under Lieut. Col. John C. Fremont.....		75.00			
Pay of volunteers, Mexican war.....		11.91			
Traveling expenses of First Michigan Cavalry.....		176.74			
Traveling expenses of California and Nevada Volunteers.....		318.44			
<i>Transfer accounts.</i>					
Pay, etc., of the Army, 1892, and prior years.....		664.54			142.68
Pay of 2 and 3 year volunteers, 1871, and prior years.....		1,197.82			
Payment of expenses under the reconstruction acts.....					42.70
Total.....	1,641,943.52	13,833,163.96	196,019.43	147,311.82	13,969.45

appropriations subject to its control during the fiscal year ended June 30, 1895.

In account with the Treasury.							
Total.	Amount drawn by requisition.		Amount covered into surplus fund.	Total.	Balance in the Treasury June 30, 1895.	Balance in the hands of paymasters June 30, 1895.	Total balances June 30, 1895.
	On Pay Department request.	On Treasury settlements.					
\$13,035,545.19	\$12,990,440.00	\$9,049.16	.....	\$12,999,489.16	\$36,056.03	\$924,664.35	\$960,720.38
233,223.78	227,000.00	.....	.....	227,000.00	6,223.78	33,437.61	39,661.39
140,158.80	125,000.00	13,125.71	.....	138,125.71	2,033.09	10,777.85	12,810.94
534,152.65	81,000.00	7,560.74	.....	88,560.74	445,591.91	7,023.55	452,615.46
9,923.09	.....	.....	.....	.....	9,923.09	.....	9,923.09
47.70	.....	.....	.....	.....	47.70	.....	47.70
677,372.32	5,500.00	1,170.72	670,701.60	677,372.33	.....	3,569.88	3,569.88
25,027.24	.....	.....	25,027.24	25,027.24	.....	.....	.....
2,945.86	.....	.....	2,945.86	2,945.86	.....	.....	.....
348.83	.....	.....	348.83	348.83	.....	.....	.....
100.00	.....	.....	100.00	100.00	.....	.....	.....
1,233.29	1,233.29	.....	.....	1,233.29	.....	.....	.....
447.00	447.00	.....	.....	447.00	.....	.....	.....
915.00	915.00	.....	.....	915.00	.....	.....	.....
23,410.98	22,200.25	471.75	.....	22,672.03	738.95	3,379.14	4,118.09
5,513.91	332.10	.....	.....	332.10	5,181.81	.....	5,181.81
272.77	272.77	.....	.....	272.77	.....	.....	.....
906.93	906.93	.....	.....	906.93	.....	.....	.....
195,429.86	4,887.67	.....	190,542.19	195,429.86	.....	4,153.36	4,153.36
241,976.63	10,000.00	4.28	.....	10,004.28	231,972.35	4,172.93	236,145.28
300,000.00	300,000.00	.....	.....	300,000.00	.....	5,630.74	5,630.74
18,117.62	697.67	.....	.....	697.67	17,419.95	.....	17,419.95
380.00	380.00	.....	.....	380.00	.....	.....	.....
984.06	984.06	.....	.....	984.06	.....	.....	.....
49,080.12	4,138.20	.....	44,941.92	49,080.12	.....	5,594.99	5,594.99
84,010.00	10,000.00	.....	.....	10,000.00	74,010.00	2,763.74	76,773.74
200,000.00	200,000.00	.....	.....	200,000.00	.....	7,453.22	7,453.22
2,297.45	187.50	.....	.....	187.50	2,109.95	.....	2,109.95
50.00	50.00	.....	.....	50.00	.....	.....	.....
7,387.27	.....	.....	7,387.27	7,387.27	.....	959.10	959.10
13,500.00	.....	.....	.....	.....	13,500.00	997.78	14,497.78
25,000.00	25,000.00	.....	.....	25,000.00	.....	1,741.50	1,741.50
75.00	75.00	.....	.....	75.00	.....	.....	.....
11.91	11.91	.....	.....	11.91	.....	.....	.....
176.74	176.74	.....	.....	176.74	.....	.....	.....
318.44	131.23	.....	.....	131.23	187.21	.....	187.21
807.22	.....	807.22	.....	807.22	.....	.....	.....
1,197.82	.....	1,197.82	.....	1,197.82	.....	.....	.....
43.70	.....	.....	43.70	43.70	.....	.....	.....
15,832,389.18	14,011,967.35	33,387.40	942,038.61	14,987,393.36	844,995.82	1,016,319.74	1,861,315.56

Statement showing the balance in the hands of each disbursing officer of the Pay Department, United States Army, on the first of July, 1894; the amount remitted to each from the United States Treasury, or turned over by other agents during the fiscal year ended June 30, 1895; the amounts accounted for by accounts and vouchers of expenditures, or by transfer or replacement in the Treasury, and the balance remaining in the hands of paymasters to be accounted for in the next fiscal year.

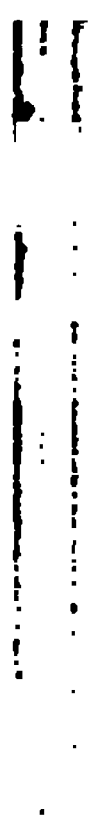
Rank and name.	Balance in hands of each paymaster on June 30, 1894.	Remitted from the Treasury in the year ended June 30, 1895.	Received from other paymasters.	Received from soldiers' deposits.	Received from paymaster's collections.	Total received and to be accounted for.	Surplus funds deposited in the Treasury.	Paymaster's collections deposited in the Treasury.	Expenditures.	Transferred to other paymasters.	Balance in hands of each paymaster on June 30, 1895.	Total accounted for.
<i>Brigadier-general and Paymaster-general.</i>												
Stanton, T. H.	\$92,849.10	\$705,000.00	\$5,000.00	\$4,648.75	\$3,691.28	\$811,189.13	\$30,000.00	\$3,691.28	\$163,321.33	\$614,176.52	.....	\$811,189.13
<i>Colonels and assistant paymasters-general.</i>												
Trotter, C. M.	27,708.83	644,990.00	45,671.16	5,249.00	4,946.36	728,565.35	29,163.63	4,946.36	421,610.44	227,838.69	45,066.23	728,565.65
Glenn, G. E.	63,507.91	966,584.00	75,169.73	6,009.25	2,772.84	1,114,043.73	1,912.88	2,772.84	456,054.83	653,303.18	.....	1,114,043.73
<i>Lieutenant-colonels and deputy paymasters-general.</i>												
Canby, J. P.	39,431.24	303,384.00	142,289.95	2,462.85	5,166.71	492,934.75	1,200.22	5,166.71	345,075.63	93,575.32	47,916.87	492,934.75
Candee, G. W.	129,324.79	984,000.00	104,631.11	7,744.80	8,907.91	1,234,608.61	1,300.00	8,907.91	755,196.09	438,469.43	30,735.18	1,234,608.61
Carey, A. B.	62,552.46	3,530,000.00	102,628.92	7,851.24	6,873.56	3,709,906.18	3,492.67	6,873.56	1,518,507.31	2,046,785.36	184,247.28	3,709,906.18
<i>Majors and paymasters.</i>												
Coxe, F. M.	16,726.92	359,188.00	142,730.62	8,308.00	5,243.79	592,197.33	10,796.96	5,243.79	375,176.12	106,809.64	34,170.82	592,197.33
Bates, A. E.	5,875.96	645,594.00	144,249.52	9,830.52	6,926.62	812,576.64	4,497.16	6,926.62	472,909.67	315,162.63	13,089.56	812,576.64
Wilson, C. I. ....	.....	595,027.35	293,773.18	4,451.27	928.87	894,180.67	32,515.86	928.87	663,129.72	160,450.09	47,156.14	894,180.67
Ekels, W. H.	38,690.18	67,000.00	48,000.00	4,871.10	2,833.98	161,335.26	.....	2,833.98	129,344.30	29,156.98	.....	161,335.26
Town, A. S.	22,189.11	126,000.00	543,516.05	10,491.23	8,605.60	709,801.99	450.00	8,605.60	550,287.81	105,075.16	45,888.42	709,801.99
Maynadler, W. M.	43,185.26	130,000.00	247,601.47	8,200.75	3,958.79	432,946.37	3,500.00	3,958.79	258,352.17	172,135.41	.....	432,946.37
Arthur, Wm.	17,124.51	179,000.00	218,529.61	14,406.71	8,981.31	438,341.14	.....	8,981.31	266,393.64	17,609.73	55,296.46	438,341.14
Keefer, J. B.	10,673.90	.....	513,369.60	6,604.00	8,071.06	538,738.96	.....	8,071.06	482,775.90	197.41	47,694.59	538,738.96
Wham, J. W.	21,109.46	55,000.00	.....	1,200.00	929.67	78,330.13	6,500.31	929.67	47,546.88	23,352.57	.....	78,330.13
Sniffen, C. O.	17,496.08	139,000.00	287,568.19	16,454.50	9,747.69	404,261.44	.....	9,747.69	286,103.46	34,206.88	34,223.41	404,261.44
Baird, G. W.	17,594.40	401,500.00	307,058.34	18,389.34	12,799.86	752,341.94	30,749.93	12,799.86	546,980.96	137,366.74	24,494.45	752,341.94
Robinson, G. F.	22,419.20	338,000.00	34,941.43	8,300.80	6,557.44	405,278.86	16,300.00	6,557.44	291,360.78	68,009.64	23,001.00	405,278.86

Dodge, F. S.	16,063.92	508,000.00	184,432.38	17,996.00	14,752.88	648,138.93	78,348.37	.....	741,240.18
McClure, Chas.	14,481.56	440,000.00	69,306.27	10,608.92	10,163.20	425,800.00	35,000.00	72,736.15	544,559.95
Witcher, J. S.	42,890.15	225,000.00	109,692.85	19,571.90	8,708.24	301,206.85	68,599.97	20,088.08	405,863.14
Whipple, C. H.	22,312.59	180,000.00	460,486.27	17,846.95	11,184.18	497,703.33	76,034.68	56,815.98	641,823.99
Comegys, W. H.	10,994.51	180,000.00	497,310.49	18,188.57	13,584.98	512,354.86	159,100.13	34,358.36	720,078.55
Tucker, W. F.	.....	.....	401,102.82	15,805.54	12,291.99	332,596.78	57,131.55	27,180.03	429,200.35
Muhlenberg, J. C.	143,282.99	1,638,500.00	175,943.46	14,723.99	12,111.25	1,631,441.83	270,965.29	70,043.32	1,984,561.69
Smith, G. R.	21,501.03	155,000.00	642,101.14	18,356.00	11,622.35	582,929.78	214,861.95	39,256.46	848,670.52
Baker, J. P.	46,713.63	205,000.00	111,381.13	23,288.88	8,475.75	292,373.06	59,425.32	16,060.81	394,859.43
Halford, E. W.	19,472.13	.....	392,215.49	11,900.83	10,345.11	400,498.29	18,090.16	.....	433,938.56
Hamner, W. H.	13,801.35	105,000.00	50,295.81	2,229.00	3,141.44	90,995.51	7,308.09	73,022.56	174,467.60
Killbourne, C. E.	31,720.29	272,000.00	76,287.93	13,047.04	7,762.44	274,758.74	93,953.44	24,343.08	408,817.70
Total	1,031,728.61	14,011,967.35	6,377,620.31	318,270.73	232,078.14	14,145,976.30	6,377,620.31	1,016,319.74	21,971,665.14

¹ Paymaster-General, March 27, 1895.

² Retired February 11, 1895.

³ Not on duty.



REPORT OF THE CHIEF SIGNAL OFFICER.

REPORT OF THE CHIEF SIGNAL OFFICER.

WAR DEPARTMENT, SIGNAL OFFICE,
Washington, October 1, 1895.

SIR: I have the honor to submit the following report on the Signal Corps of the Army for the fiscal year ending June 30, 1895:

MILITARY TELEGRAPH LINES.

The permanent military telegraph lines operated by the Signal Corps, aggregating more than 800 miles in length, remained during the year under the charge of Capt. Robert Craig, Signal Corps, Assistant, whose tabular statement as to the receipts therefrom and messages transmitted thereover is hereto annexed (1).

These lines, running through mountainous and desert country, are now in better condition than at any time during their existence, owing largely to the energetic and judicious supervision of the officers in charge. Their efficiency has been largely promoted by the replacement of wooden by iron telegraph poles, which has proceeded satisfactorily during the year. Notwithstanding the original high cost of the iron poles their use is more economical than that of wooden poles, which deteriorate rapidly through climatic action, and frequently disappear entirely by theft in treeless regions where fuel and timber are so valuable.

The more important telegraph divisions have been in charge of the chief signal officers of the several military departments, viz: Capt. R. E. Thompson, Signal Corps, Department of Texas; Capt. William A. Glassford, Signal Corps, Department of the Colorado; First Lieut. Frank Greene, Signal Corps, Department of California, and First Lieut. S. D. Sturgis, Fourth United States Artillery, acting signal officer, Department of Dakota, who was relieved by Second Lieut. A. G. C. Quay, Fifth United States Cavalry, May 17, 1895.

In the post commander is vested the administration of the following short military telegraph lines connecting the posts with the commercial systems, where no tolls for the transmission of messages are collected: Fort Bayard to Silver City, N. Mex.; Fort Clark to Spofford Junction, Tex.; Fort Hancock to Hancock Station, Tex.; Fort Reno to El Reno, Okla.; Fort Sill to Rush Springs, Okla.; Fort Niobrara to Valentine, Nebr., and Fort Washakie to Lander, Wyo.

Owing to the abandonment of the military posts of Fort McKinney, Wyo., Fort Supply, Okla., and Fort Bowie, Ariz., the military lines connecting them with the commercial lines were dismantled and the

material recovered for use elsewhere in repairs. The military telegraph line connecting Fort Custer with Custer Station, Mont., was also dismantled and replaced by a very short line to the nearest station on the line of the Burlington and Missouri River Railroad extension. The net reduction in the mileage of the military lines since June 30, 1894, is 98 miles.

The Fort Bliss-El Paso military telegraph line in Texas, the construction of which was provided for in the act of Congress approved August 6, 1894, was completed and opened for business March 1, 1895. Under the direction of Capt. R. E. Thompson, Signal Corps, the line was constructed by the labor of troops, supervised by a sergeant of the Signal Corps. The satisfactory solution of matters relating to the right of way was largely due to the enterprise of the post signal officer, Lieut. George D. Moore, Nineteenth United States Infantry.

While the permanent telegraph lines under the control of the Chief Signal Officer of the Army were primarily constructed for military purposes, yet they secondarily subserve commercial interests. The extremely low tariff charges for messages, averaging about 15 cents for ten words, necessarily limits the revenue; nevertheless the cash receipts on account of tolls collected during the year amounted to \$1,886.29. This sum, covered into the United States Treasury, shows an increase of 23 per cent over the receipts of 1893-94. The additional sum of \$3,776.17 was collected for tolls on the account of commercial companies and turned over to the proper officials thereof. The total number of messages transmitted over the Government wires, consisting of Government, State, and other official business, has been tabulated on lines under the supervision of the Chief Signal Officer, and aggregate 60,308 messages, an increase of almost 10,000 messages over last year. These figures only indicate the business transacted on the military lines handling paid commercial messages. There are a number of military lines, connecting isolated posts with the commercial systems, over which no tolls are collected for the transmission of messages; consequently no record is kept of the amount of business done. It is evident, however, that the tariff value of all telegraphic business transacted by the military lines aggregates at the lowest estimate \$15,000.

Speedy and direct communication from the War Department and department headquarters to military posts in cases of emergency requires that all important military posts should be connected with the commercial lines by a loop or a short line, either telegraphic or telephonic, and that sergeants of the Signal Corps should be detailed as operators in addition to their other duties under acting signal officers. Where such means of communication do not exist, they should be speedily constructed, especially between Denver and Fort Logan.

The importance of the military lines is very great, whether viewed from a governmental or local standpoint. They increase the efficiency and subserve the economical interests not only of the military establishment, but also of other branches of the Government. They likewise promote business interests and conduce to the local welfare of localities through which they run. For instance, the line between Carthage and Fort Stanton affords the only telegraphic outlet for the Mescalero Indian Agency and the towns of White Oaks, Nogal, Lincoln, and other settlements in southeastern New Mexico. The commercial line of the important Globe mining district has its outlet through the military line at San Carlos, Ariz.

In a military way, they enable the commanding generals of departments to keep themselves promptly informed of the conditions and

prospective disturbances on the great Indian reservations and along the Mexican frontier, and thus are indispensable for economical and efficient military operations in connection with Indian outbreaks and border troubles. The past year has also shown their value as a factor in moving instantly and directing judiciously such forces of the Army as were needed as coadjutors by the civil arm of the Government.

The military telegraph lines connecting Fort Du Chesne, Utah, and San Carlos, Ariz., reservations with the commercial system of the country are absolutely necessary for the proper control of the semi-hostile Indians living on these reservations. The deterrent effect of these lines upon the Indians, as regards their committing acts of crime and violence, has a value which can not be overestimated, involving as it does human life and the safety of the settlers of the adjacent country. The Indians are gradually realizing that outbreaks and violence are sure to meet with speedy action from the military authorities through the medium of telegraphic communication. Undoubtedly some of the less important acts of violence in late years would have resulted in extensive disturbances or outbreaks had it not been for the speedy action of the military authorities based on telegraphic information. As a recent illustration may be mentioned the following: On May 14, 1895, 10 miles south of San Carlos Agency, a renegade Indian murdered one squaw, wounded another, and abducted a third. A telegraphic report of the deed was promptly sent by the post commander at San Carlos to the commanding officer at Fort Grant, Ariz., 80 miles distant, and in less than twenty minutes a troop of cavalry from the latter post was in pursuit of the murderer.

The total number of days of interruption, accidental and malicious, to telegraphic communication on the military lines during the year has averaged for each station four days and seven hours. The very great importance of a double outlet is shown by the fact that stations having two telegraphic outlets were isolated by the line being down on both sides of a station an average of but eighteen hours for the entire year, against four days and eight hours for stations with but one outlet.

The most frequent malicious interruptions have been in the valley of the lower Rio Grande, where eighty insulators have been destroyed, largely by being shot, seven poles pulled down, the line cut and several hundred yards of wire taken away, while one testing box was broken open and destroyed. Despite these malicious actions the record of the Brownsville-Laredo line has been remarkably good, communication having been interrupted only six days and four hours throughout the year. This efficiency speaks volumes for the energy and activity displayed by Captain Thompson and his assistants, especially when it is considered that for five days in a single month the military line afforded the only outlet for the Western Union's business for the entire lower Rio Grande region.

A not unimportant factor in the speedy repairs of the telegraph lines has been the substitution, as a means of transportation for the repair men, of the bicycle in place of the more expensive horse and wagon. The bicycle proves the more rapid as well as more economical method of travel. In one case a break on the line was located 2 miles from the station in twenty minutes, less time than would have been consumed in obtaining a mount. At another station, Taylor's Ranch, Utah, the bicycle has resulted in a single year in a greater saving to the Government than the cost of the machine. Different types of bicycles, selected with a view to the fact that they must carry heavy loads and travel over the roughest of ground at a moderate rate of speed, have been

purchased for experimental use. It is evident that no one make of bicycle will best fulfill the requirements imposed by various climatic conditions and by roads varying from almost pure sand to the roughest rocks. It seems probable that a bicycle weighing from 25 to 30 pounds, with pneumatic tires, will do the best general work.

The location of faults on several of the military telegraph lines has, in a measure, been facilitated by the insertion of testing boxes at distances of about 10 miles, which plan will gradually be extended to all military lines.

FLYING TELEGRAPH LINES.

As is well known, electrical communications play in modern warfare a part that emphasizes the necessity of developing them to the highest degree of efficiency for armies operating upon a base apart from the commercial telegraph system. Special attention is given by the Signal Corps to the suitable equipment of its flying telegraph trains in all phases, from the connection of Army Headquarters with the permanent lines of the country to the provision for temporary telegraphic or telephonic intercommunication between separate military commands, whether in camp or on the skirmish line.

By the approval of the Lieutenant-General Commanding the Army and the Secretary of War flying telegraph trains equipped as far as practicable with the most modern appliances are located at Fort Riley, Kans.; Fort Grant, Ariz.; Fort Sam Houston, Tex.; Fort Leavenworth, Kans., and at the Presidio of San Francisco, Cal.

Efforts are continued with a view of obtaining in each flying train maxima of efficiency and line material with minima of transportation and labor. Among pending experiments are those pertaining to insulators, wire, batteries, and the most important one of naked-wire telephony.

The field telephone kit, wherewith a moving line can be kept in communication with its commander, although susceptible of improvement, has been developed to a very satisfactory degree of efficiency. To obviate interruptions of telegraphic communication, which might result from the impracticability of making long spans with the light wire (No. 14) of the flying trains, light telegraph cable has been purchased for use in streams or under conditions which render ordinary aerial methods inadvisable.

The question of reeling out and recovering wire and outpost cable by bicycle, automatically, which was under consideration at the date of the last annual report of the Chief Signal Officer, has been most happily concluded and this Corps now has a bicycle equipped with an automatic reel for the purpose that works perfectly. This attachment was made in San Antonio, Tex., under the supervision of its inventor, Capt. R. H. Thompson, Signal Corps, who makes the following report of its first trial:

A trial was first made over asphaltum walks and level lawns. The line was paid out and recovered at a moderate rate. As no fault developed a speedier test was made over the ordinary roadway inside the quadrangle, but the pace seemed to make no difference, except that at the turns the wire drew against the corner trees. The wire was laid quickly, and, after dismounting for a moment to reverse action, the sergeant began the return trip, this time not following the course of the line but keeping the middle of the road and riding hard. The recovery was perfectly made. The wire spooled evenly, and the tension was at no time troublesome, though the course of the line was occasionally departed from many feet, showing that the problem of compensating for increased speed of recovery due to increasing bulk of the spool has been solved.

The time occupied in running out and then picking up a reel of wire was five minutes (the reel holds about one-third of a mile of cable).

The device was then taken to the main parade and the line run from the crest of the hill to the vicinity of the general's quarters. This was a fair test, since the

ground on the slope is not favorable to bicycle riding; but no difficulty was experienced, the running out and recovery being easily and quickly accomplished. It is plain that where an ordinary bicycle can go the telephone can follow.

Subsequently the sergeant was sent from the signal office to the adjutant's office at Fort Sam Houston. En route two roads were crossed. The wire was laid by the rider, a second sergeant placing it overhead at the crossings. Communication was promptly established.

Practical use has also been made of the equipment in sending messages at other times, and during the various trials it has not once failed to work smoothly and with certainty.

The same automatic device is now being fitted to an outpost cable cart, three of which have been ordered, from which are confidently anticipated equally good results as in the case of the bicycle. This will give the Signal Corps an equipment superior to that of any other country for rapid paying out and taking up a line, the operators being at all times in communication with the base. Each section of the field train will eventually be supplied with bicycles and cable carts fitted with automatic devices.

Six sets of field apparatus, invented by Capt. James Allen, Signal Corps, for simultaneously communicating by telephone and telegraph over a single wire, have been manufactured, and a sufficient number to properly equip the five flying telegraph trains will be obtained during the coming year. These instruments mark a distinct advance over any heretofore constructed for similar purposes. Compact, strong, and light, they answer admirably the requirements. A man may now easily carry a combined telegraph and telephone office, and while one man is engaged in telegraphing a message in Morse characters another man may by means of the same instrument talk to another station, the distant operators hearing only their own message. The whole outfit, including sufficient battery to work over any length of line that the Corps may be called upon to operate, weighs but 16 pounds.

Great credit is due to Capt. James Allen, Signal Corps, for perfecting this instrument; his electrical skill and ingenuity have developed an instrument that greatly increases the capacity of a single wire. A few such advances as this and the difficult problem of electric intercommunication in the campaign will be substantially revolutionized.

POST PRACTICE LINES.

Every post in the Army capable of utilizing through its garrison electrical communication has been supplied with telegraph instruments and materials for practice lines. Beyond the original purpose of stimulating an active interest in military signaling these lines have inured to the benefit of many men of the line of the Army, who later secured desirable positions in civil life through telegraphic experience thus gained.

LINES ON TARGET RANGES.

Every military post asking therefor has been furnished with telephones and wire for the purpose of establishing electrical intercommunication on target ranges. These lines have facilitated and secured the safety of markers at the butts. In intervals of target practice the military administration of many of the larger posts has been greatly aided by the use of such telephones of the Signal Corps. The most important target ranges have been supplied with the sling psychrometer, an automatic register for the anemometer and the compensated aneroid, or a standard mercurial barometer.

MILITARY SIGNALING.

The requirements of Army Regulations that constant instruction will be maintained until at least one officer and four enlisted men of each company are proficient in the exchange of both day and night signals by flag, heliograph, or other device has been more nearly complied with during the last fiscal year than in any previous year. The Chief Signal Officer is pleased to report that as against 60,831 hours devoted by the Army to the study and practice of signaling in the preceding year 73,521 were this year so devoted. In seven of the eight military departments there was an increase, in one—the Platte—a decrease, of the time given to signaling.

While this increased interest in signaling is gratifying, the facilities and incentives requisite to the development of skilled signalists in the line of the Army are wanting, and although there are now quite a large number of officers and men who have acquired the rudiments of signaling, yet for long range and rapid work in special cases recourse to the skilled signalists of this Corps would be necessary.

Only 4 of the 10 regiments of cavalry have as many as 10 officers so qualified, while in the Third Cavalry there are reported as proficient but 2 officers and 8 enlisted men. In the Fourth Cavalry there is an excess of 5 officers and 32 men, and in the Second an excess of 7 officers and 17 men over the requirement. In the artillery regiments instruction has been more assiduously given, and but one regiment has less than the required number of proficient officers. The First and Fourth Artillery report as proficient, respectively, 8 and 9 enlisted men less than the required number. Of the 25 regiments of infantry, 14 have at least 8 proficient officers, the required number. The Fifteenth and Twentieth do not report any officer proficient in signaling; the Sixteenth reports as proficient 3; the First and Twenty-fourth, 4; the Twenty-second, 5; the Seventh, Nineteenth, and Twenty-first, 6; and the Thirteenth and Twenty-fifth report 7 officers. The Eighth has the largest number of officers proficient, 19, and next comes the Twenty-third with 14. As to the enlisted men, the Twenty-fourth Infantry has only 5 qualified signal men, the Fifteenth only 6, and the First Infantry only 10. The Fourth Infantry leads with 64 enlisted men proficient, the Second Infantry being second with 61. Fourteen regiments have at least the required number of men proficient and the Twentieth and Twenty-second fail by only 1.

This showing, in view of the fact that the standard of proficiency for the enlisted men detailed for instruction has been fixed by the Chief Signal Officer at sending and receiving six words of five letters each per minute by flag, and sending eight and receiving five words per minute with the heliograph, is very creditable, especially as in only a few commands does signal practice excuse from any other drill or duty, and, consequently, officers and men do not bring to it the interest or enthusiasm that is productive of best results. Coming, then, after or before regular company drills and duties it is but natural that signal practice is by the line of the Army looked upon, generally, as a hardship. Moreover, experience has shown that not more than one soldier out of six has the aptitude or characteristics essential to a successful acquirement of the higher branches of signaling.

In the Army, as in civil life, modern developments have produced such conditions that no single officer or enlisted man can learn the entire technical duties of his profession. It is an era of specialties, and it is wasted energy to train men in such special duties as will not be exacted of them in war times.

That certain deficiencies obtain, despite the increased practice of the past year, exemplifies the impracticability of training the line of the Army to properly do its own signaling. The Geronimo campaign in Arizona, the Wounded Knee campaign in South Dakota, and the later service of the Army at Chicago practically proved that in such emergencies the trained, intelligent signal men of the line are absolutely needed with their companies and strenuously avoid detachment in face of prospective combat.

The demands for competent men in connection with electrical appliances of the large posts are greater than a corps of fifty sergeants can furnish, and in an emergency requiring extended field service it would be simply impossible to supply a sufficient number of trained men. The acting inspector-general, Department of the Missouri, officially reports the work of intercommunication done at Chicago as showing that the noncommissioned officers of the Signal Corps are experts, but pertinently and wisely adds that it should have a full proportion of expert privates, and not expect to get men from companies for quick and critical work in a crisis. The demands upon the intelligence and application of the United States soldier are to-day so various apart from the performance of his duties as a fighting unit that, although signaling is absolutely indispensable for military operations, the troops of the line should be relieved therefrom, it being an arduous and thankless duty.

Modern warfare is waged under such conditions that a competent Signal Corps is an absolute necessity, and while the Chief Signal Officer does not wish to urge any extended increase in the Corps, yet he feels he would be derelict in his duty did he not urge upon Congress through the Honorable Secretary of War the extreme importance of adding fifty privates to the Corps; and in view of the thirty years of service of the senior captain of the Corps, of removing the restriction on the appointment of a lieutenant-colonel.

Table No. 2 sets forth the number of officers and enlisted men reported as proficient in signaling, the hours devoted to signal instruction in the departments, and the number of officers and men qualified to operate slowly a telegraph line. In the tabulations covering instruction by military departments, it will be observed that in the Department of Dakota instruction was given 11.2 hours, on an average, for each man. The Department of the Platte was lowest with 1.4 hours.

Practical use of signaling has been made at many posts during the year, among the more important purposes for which used are the following:

Alcatraz Island: Flag and heliograph used on artillery ranges and in official communication with Fort Mason.

Angel Island: Communication has been held with the posts of the Presidio, Alcatraz, and Benicia Barracks during practice with Hotchkiss mountain rifles and during small-arms rifle practice.

Fort Apache: Communication was held with heliograph between Mount Thomas and Fort Apache by scouting parties in September and October, 1894.

Fort Barrancas: Signaling angles from base ends in artillery target practice.

Fort Clark: On practice march of Twenty-third Infantry communication with heliograph between Sycamore Creek and Los Moras Mountain; distance, 20 miles.

Fort Keogh: Practical use made of signaling while on practice march.

Key West Barracks: Flagging of angles to plotting house from ends of base line.

Fort Mason: Messages flagged and heliographed during artillery target practice and tracking vessel drill in cooperation with troops at Alcatraz Island.

Fort Snelling: Practical use of flag and heliograph while on practice marches.

Fort Thomas: Practical use of heliograph made between rifle range and Fort Thomas; distance, 13 miles.

Fort Trumbull: In July, 1894, the post signal detachment, after preparatory field practice, cooperated with success in an exchange of messages between the United States Navy, the New York Naval Reserve, the New York Signal Corps, and the Connecticut Signal Corps in heliograph and flag signaling at long range.

Whipple Barracks: Camp of instruction on Verde River connected with Whipple Barracks, Ariz., for two days by heliograph while troops were on practice march.

Fort Yates: Practical use of signaling made by troops while on practice march.

PERSONNEL OF THE CORPS.

The personnel of the officers of the Signal Corps has remained unchanged during the year. The major, H. H. C. Dunwoody, who has performed no military service with his Corps since his promotion thereto five years ago, remains on detached civil duty in charge of forecast work of the Weather Bureau, the Honorable Secretary of Agriculture not being able to dispense with his services. At the end of the year, other officers were serving as follows: Capt. Robert Craig, disbursing officer and assistant; Capts. James Allen, R. E. Thompson, W. A. Glassford, First Lieuts. J. E. Maxfield and Frank Greene, chief signal officers of departments; Capt. George P. Scriven, with the Bureau of Military Information as military attaché to Rome, Italy, and First Lieut. Samuel Reber in charge of the School of Instruction at Fort Riley.

Ten sergeants were reenlisted during the year, one sergeant retired and two discharged, one for promotion to be a second lieutenant in the line of the Army. Two vacancies were filled by the transfer of meritorious noncommissioned officers from the line, carefully selected, after competitive mental and physical examination, from a large list of applicants, and the third vacancy by the enlistment of an expert balloonist.

CHICAGO LABOR TROUBLES.

The special service to which the Army was called at Chicago during July, 1894, emphasizes the importance and value of the Signal Corps as a means of securing speedy intercommunication. The problems presented were complex and difficult, requiring the organization of two sets of communication, one to be administered by the Army independently, while the other was to be cooperative, in conjunction with commercial telegraph and telephone lines. The difficulties were greatly enhanced by the fact that the extended field of operation was in a closely built city, where the operation of lawless parties or the movement of troops were not visible, save under very favorable conditions, for more than two or three squares. The use of flag or torch signals was likewise complicated by the opacity of the smoke-filled air. The surroundings were akin to actual warfare: disturbed social conditions prevailed; a necessity existed of improvising part of the apparatus, while the officer,

Capt. James Allen, Signal Corps, had an insufficient force of signal men to properly cover the disturbed area—some 50 square miles. Captain Allen's preliminary and theoretical work, undertaken as a matter of professional study prior to the social disturbances in Chicago, had made him familiar with the ground and existing electrical lines. He immediately opened a special Western Union telegraph office at department headquarters, established a long-distance telephone system with the instruments of the Signal Corps, arranged a preconcerted code of night signals by rockets, connected telegraphically and telephonically, by duplex lines, the signal stations on Auditorium Tower with department headquarters, secured reliable communication through the dense overhanging smoke by the use of visual signals through intermediate stations, and opened telegraph offices at Lake Camp and Brighton Park. Communication by flag and torch was also arranged for by other suitably selected stations at Plaza Hotel, Stock Yard, Englewood, and other important points. By this arrangement the department commander was able to rely upon constant intercommunication with his two principal camps, such arrangements having been made that orders for the movement of troops could have been promptly communicated even had all telegraphic and telephonic communication by corporation wires been cut and all telegraph wires in Chicago interrupted. It may be safely said that no body of troops operating in a great city had ever before been afforded such complete facilities for intercommunication as those put in operation by Captain Allen.

The arrival of the Signal Corps detachment, under Lieut. J. E. Maxfield, from Fort Riley, Kans., placed one officer and a dozen sergeants of the Signal Corps under Captain Allen, whose signal stations served both as outlooks and means of communication, covering an area of 9 by 6 miles. As a precautionary measure, the commanding general, Department of the Missouri, requested the additional signal sergeants and the military balloon, which request was not favorably considered owing to the improved condition of affairs at Chicago.

General Miles realized that the use of a military captive balloon in a great city would afford exceptional advantages for observing the movement of hostile forces, which, even from the tops of the highest buildings, are otherwise hidden from observation, save when they cross streets at right angles to the point of observation. With a balloon 1,000 feet in the air, not only the presence, but the line of action of such bodies can be observed, followed, and information thereof be transmitted by telephone balloon cable to the commanding general, who would thus be able to move, without loss of time, in the shortest line, suitable bodies of troops to checkmate hostile movements. At present, waiting until reports of actual violence are made, the troops are harassed and fatigued by marching long distances to points which in the meantime are evacuated, the damage having been done.

As it happened, the Signal Corps force was instantly ordered to Chicago from Fort Riley while experimenting with the military balloon, which, necessarily left wet from a passing shower, was practically ruined for lack of intelligent care before the signal detachment returned to Fort Riley.

While the system inaugurated by Captain Allen at Chicago worked admirably and proved sufficient for the emergency, yet more extensive trouble would have overtaxed its possibilities for want of men. Even had every post and station within thirty-six hours of Chicago been stripped the Signal Corps could only have assembled twelve additional men in Chicago, thus raising the number to twenty-five. As troops

were located at each railroad depot there should have been such a number of signal sergeants as to have enabled the speedy transmission of orders to every depot and to every considerable number of troops on the march, but as men were wanting stations could only be established at the most important points.

As is usually the case men could not be obtained by detail from the line, for not only were such men imperfectly instructed, but their company commanders properly protested against such details, while the men themselves were reluctant to leave their commands during active service.

Captain Allen's operations reflected credit on the Army and his own corps. They evinced sound judgment, marked administrative powers, and abilities of a high order which promise well for future emergencies.

PRACTICAL TELEGRAPH OPERATIONS.

The field or flying telegraph differs materially from a permanent line. The material, while sufficiently strong to insure uninterrupted communication and withstand wind and weather, must be so light as to render easy its transportation with moving troops—say material for 12 miles by a four-mule team. The wire supports must be rapidly erected and dismantled, the wire and insulators must easily attach and detach from the lances without injury or deterioration, and the appliances for construction be such that the line can be quickly put up over any kind of country. Theory must, however, be supplemented by practice, since the erection of a flying line for drill purposes over chosen ground tests only in part the materials, methods, and appliances.

It is important to note that during the present year in the maneuvers of the English volunteer forces the field telegraph kit has been used precisely as outlined by the Chief Signal Officer in 1892. In connection with this use of electrical communication in the outpost practice at night, the military critic of the London Times says:

And here came again into play the wire as an invaluable aid in war. From the tents of the two generals lines were laid to the several pickets and detached posts with orders to reel up and retire with the pickets if these were compelled to fall back, but to at once reopen communication when the pickets halted. * * * The northern general, owing to the nature of the duty specially imposed upon him, could not afford to dispense with the wire for a single instant. He preferred to be in conversational contact with the picket officers, to hear their reports, to ask them himself for information required to complete or supplement these reports; and this he did through the wire, and thus exactly at the right moment he was able to give the order to strike the camp, move off his force, and ride himself to the new battlefield, not giving up the wire, but to all intents and purposes tying it to his horse's tail for subsequent use.

Unfortunately the past year has been marked in the United States by no extended practical application of the flying telegraph train. In the Department of California field movements on a small scale were practiced and a detachment of signalists under First Lieut. Frank Greene, Signal Corps, performed most creditable work in observing the movements of the enemy and promptly transmitting the information to the commanding general.

The Chief Signal Officer has directed his subordinates to avail themselves of every opportunity for practical work of this kind, and in the meantime is perfecting the telegraphic and telephonic apparatus of the Corps as fully as possible.

During the year the Chief Signal Officer has succeeded in securing on life rental, and on very favorable terms, the fifty Blake transmitters previously held on annual rental from the American Bell Telephone

Company. With these Blake transmitters, and without additional cost, fifty modern hand telephones were procured. An offer to furnish on very favorable terms to the United States such life-rental transmitters—long distance or Blake—together with bipolar or hand receivers as this Corps may in future need, was made by the same company.

That the field telegraphic service of this Corps should be equipped with the latest and best telephonic instruments procurable, recourse has been made the past year to the most promising sources at home and abroad. The Chief Signal Officer can say with all conservatism that in the special branch of field electrical apparatus the Signal Corps of the United States Army is not surpassed by that of any other nation.

LONG-RANGE HELIOGRAPHING.

In developing the more important electrical communicating devices of the Signal Corps, other methods of signaling that are absolutely essential adjuncts have received due attention. Heliography is perhaps the most important of these methods to a rapidly moving army, operating over a country where the use of electrical instruments is inadvisable or temporarily impracticable.

The former world's record for long-range heliographing was surpassed 58 miles during the year through the zealous and intelligent exertions of Capt. W. A. Glassford, Signal Corps, and a detachment of signal sergeants by the interoperation of stations on Mount Ellen, Utah, and Mount Uncompahgre, Colorado, 183 miles apart. This unprecedented feat of long-distance intercommunication by visual signals was made on September 17, 1894, with Signal Corps heliographs carrying mirrors only 8 inches square. It was accomplished only after much discomfort and some suffering, due to severe storms on the mountains and to the rarified air to which the parties were subjected for ten days. The persistence, skill, and ingenuity of Captain Glassford and of the signal sergeants engaged in this result are highly commendable. In reporting the work upon that occasion Captain Glassford says:

On the morning of September 10, as prearranged, we were ready and began with the sunrise to direct our glasses and flash in the compass direction of Mount Ellen, for not even the Henry Mountains group, of which Mount Ellen is one, was visible. No answering flash was seen until about 4 o'clock in the afternoon, when we caught the first glimmer of the Mount Ellen flash, which appeared through the telescope of a deep reddish hue and to be about as bright as the planet Venus and with the same apparent disk as presented by that planet in our glasses. It was visible for only a short time, however, though long enough to settle definitely the position of that peak.

On the morning of the 11th the flash from Mount Ellen was again seen for a short time, and the Mount Uncompahgre flash was also recognized by the signalmen on the former. The 12th, 13th, and 14th were stormy, and the lower plateau intervening between the peaks seemed covered with a thick dust and haze which interposed a veil too thick to penetrate.

The 15th being more favorable, the flash from Mount Ellen could be distinctly seen, and at sunset the whole Henry group of mountains was outlined against the distant horizon. We could get their signals, but it seemed impossible for the party on Mount Ellen to read ours, hence interchange of messages was not yet successful. On the 16th the Ellen flash was dimly seen, and feeling sure that they had received our message I began sending several messages, with directions that they be repeated back. One of these messages was sent time and again, so that it could, if only received in parts at a time, be put together and the complete message so made out.

On the morning of the 17th the horizon was clear, the Ellen flash distinct, and their messages read quite easily. The repeated message of the day before was sent by our party several times, and then our glasses were trained on the Ellen station. I knew that if they sent back the same message they had read our signals. About 10 o'clock we received the closing part of the message and read it without difficulty. When finished it was begun again and the whole message was received this time. Thus we knew that our flash had transmitted and the signalist's eye—183 miles distant—had caught the words sent by the speaking sunbeam.

The heliograph during the Geronimo campaign in 1886 first demonstrated its great efficiency in and utility for field intercommunication, and although the ranges over which messages were transmitted were not great, the longest being 44 miles, yet the practical use of the instrument was recognized and a reconnaissance of available signal stations was approved by Gen. Nelson A. Miles, then commanding the Department of Arizona. In 1890, following preliminary practice in which communication up to 74 miles was accomplished, ranges of 85, 88, 95, and 125 miles were worked over, this latter distance carrying with it the then world's record. The inception and execution of this work was due to the energy, interest, and skill of Lieut. Col. W. J. Volkmar, assistant adjutant-general, United States Army. The points worked between were Mount Graham, Arizona, and Mount Reno, Arizona, the former station being in charge of Lieut. A. L. Dade, Tenth Cavalry, assisted by Lieut. M. R. Peterson, Tenth Infantry, and the Mount Reno station in charge of Lieut. E. Wittenmyer, Ninth Infantry. In this remarkable run a station mirror having a reflecting surface of 64 square inches was used on the Mount Graham station, while the flash of the field heliograph used on Mount Reno was distinctly seen by the operators on Mount Graham. This field heliograph has but 20½ inches of reflecting surface, and it is worthy of note that the mirror used in making the next longest run, from the Island of Mauritius to Réunion, a distance of about 118 miles, had more than 1,200 square inches of reflecting surface.

MILITARY CABLE LINES.

The system of telegraph lines and cables connecting the fortifications of the important harbor of San Francisco has practically disappeared. The Chief Signal Officer in previous annual reports has called attention to the great military value of this system, and to the impracticability of renewing it without special appropriation. If the harbor of San Francisco is of sufficient importance to justify its defense by extensive and costly fortification, it is equally imperative that means for electrical intercommunication should also be provided, so that, when occasion requires, the entire system of defense can be controlled and directed by one master hand. To this end a special estimate of \$6,000 has been submitted, and its approval is urgently recommended for partly renewing the cable system. The sum specified is the minimum amount with which electrical communication can be restored between Alcatraz Island and the mainland.

The Chief Signal Officer recommended in his annual report for 1892 that similar systems for intercommunication should be established in the harbors of New York and Boston, where, however, the commercial telegraph systems, certain to be interrupted in time of war, present much greater convenience for present military administration than is afforded at San Francisco.

SCHOOL OF INSTRUCTION.

First Lieut. J. E. Maxfield, Signal Corps, remained in charge of the instruction of enlisted men of the Signal Corps until November 1, 1894, at Fort Riley, Kans., when he was relieved by First Lieut. Samuel Reber, Signal Corps. The theoretical instruction occupies four months and the practical two months. The course embraces electricity, telegraphy, telephony, military signaling, field surveying, map making, and photography, and is designed to make each man an expert signalist, a

ood telegraph operator, and qualify him to make rough field sketches or photograph reconnaissance. Lieutenant Maxfield's varied duties in connection with the work of instruction, with testings and experiments bearing upon the equipment of the Signal Corps, have been performed in a highly meritorious manner, eliciting the special commendation of his immediate commanding officer as well as of the Chief Signal Officer. Lieutenant Reber has proved to be a worthy successor.

SIGNAL EQUIPMENTS.

The equipment of field glasses has been increased so that there is now one field glass for every four line officers instead of one to every fifteen, as a few years ago. The six-lens low power field glass for ordinary use selected by a board of experts is as good as can be obtained for general use. It is necessarily a compromise glass, as it is impracticable to combine sharp definition, high power, good light, and extended field in any single glass; consequently these qualities have been selected with a regard to their importance in the order given. For special use some glasses of sharp definition and high power, 7, (i. e., seven times the capacity of the unaided eye) have been purchased. Most of the field glasses are in aluminum frames, as their lightness enables the observer to better use the glass free-hand. These frames will eventually replace the brass-frame glasses if they prove to be of rigid durability, which, unfortunately, is by no means certain.

Experimental tests of the new signal lantern are in progress, and as soon as a few developed defects are overcome the Army will be supplied with this improved means of night signaling.

THE NATIONAL MILITIA.

Cordial relations with the militia of the various States have been cultivated. The interest in signaling developed several years since in the National Guard has proved to be permanent. All the aid which it has been possible to extend to the signal corps of the National Guard in the way of information, code cards, and instructions for using the various signaling appliances has been given. Unfortunately, the law does not permit of the issue or sale of signaling equipments under the regulations governing the issue of other military stores, and this necessarily militates against the extension of signal corps because the purchase of essential equipments must be at private expense. This is not as it should be. The law should be amended so as to permit the National Guard to use its allotment of the annual appropriation for its support for purchasing signal equipments. A great number of them have asked for signaling appliances under these conditions, but they could not, of course, be supplied.

Notwithstanding the lack of national aid in this respect it is especially pleasing that the absolute need of intercommunication in all military movements has impressed itself upon those in command of the citizen soldiery. In the accomplishment of a military plan there is no thoughtful man who does not recognize in this branch of military science a most potent factor, and all efforts to develop it should be encouraged in every way.

In Connecticut, Illinois, and New York the signal corps are especially efficient and at every opportunity prove their worth.

Most creditable work in signaling was done by the signal detachment at Fort Trumbull, Conn., in connection with the signal corps of New York and Connecticut during the practice of the New York Naval Reserves. Messages by flag and heliograph were transmitted rapidly and accurately both in the Morse and general service codes, and valuable practice, closely approximating work that would be required during actual hostilities, was had. Messages from the U. S. S. *Dolphin* in Gardiners Bay were transmitted to the Secretary of the Navy and to the Chief Signal Officer of the Army, through Fishers Island to Fort Trumbull, New London, and thence by wire to Washington. This excellent practice between the Army, the Navy, the National Guard of New York and Connecticut, and the Naval Militia was under the supervision of Capt. J. H. Calef, Second United States Artillery, Commodore Miller, United States Naval Militia of New York, and Major Giddings, of the Connecticut National Guard signal corps, and is equally creditable to each of them.

MILITARY COLLEGES.

The students at many institutions of learning throughout the country having shown great interest in military signaling, thirty-eight colleges where officers of the Regular Army have been detailed as professors of military science and tactics have been supplied, as fully as limited appropriations and supplies permitted, with small flags, code cards, signal instructions, and heliographs. The issues of small flags, etc., have been productive of practical results. The following extract from a report made by Lieut. Edward T. Miller, Ohio National Guard, of the work done by a signal detachment during the mining troubles in Ohio last year illustrates the utility of such instruction:

The signal corps took the field with two corporals and nine privates, armed with Spencer riot guns and service belts, in United States regulation uniform (fatigue) for infantry, blanket and overcoat in Prussian roll, carrying canteen, haversack. * * * The first signaling of any note performed by the corps on the campaign was at Camp Wheeling Creek, where an outpost camp was in constant communication with general headquarters both by day and night. We were able to talk very successfully at night by swinging lanterns. Afterwards we succeeded in establishing communication with the signal detachment from the Eighth Infantry, Ohio National Guard, stationed at McClainsville, about 8 miles across country. Two intermediate stations were employed. This line would have proved very profitable had not that regiment been ordered home so soon.

At Midvale the best work of the corps was accomplished. Here three outposts of one company each were established on hills from half a mile to a mile from headquarters. A signal station at the latter was in constant communication with signal stations at each one of these outposts. This arrangement made the place perfectly secure. Two stations were similarly arranged at Canal Dover.

Owing to the small number in the corps the above arrangement allowed sometimes but one man on a station. However, I used to good advantage six other men detailed from different companies, who were either telegraphers or had been instructed in military signaling.

A number of important military messages were sent and complete records were kept by the chief of each station. Having only flags, the work was necessarily slow and fatiguing. The weather at all times was admirably adapted to work with heliographs, and had we had them I am confident that valuable work would have been done.

It is interesting to note that seven members of the corps had left the class rooms of the Ohio Wesleyan University to answer the call for troops. Of the entire number who were in service (thirteen), nine had received military instruction in the same institution under a United States Army officer detailed by the Government.

I have mentioned these facts to show one instance where cadets instructed by United States Army officers are also members of the National Guard, a matter which not only raises the personnel of the guard, but proves that the army officers are not detailed in vain, but rather are disseminating a large amount of military knowledge among the American youth.

EXAMINATION OF MONEY AND PROPERTY PAPERS.

There have been passed upon 98 accounts current with 2,273 vouchers, 449 property returns of acting signal officers and 74 property returns of officers and sergeants of the Signal Corps, with 4,145 vouchers, making a total of 7,539 papers. At the end of the fiscal year 5 property returns were unsettled.

On the accuracy and thoroughness of this work devolves the final adjudication of the signal property accountability of all officers of the Army, sergeants of the Signal Corps, and civilian employees. All money accounts relating to the Signal Corps, whether for funds appropriated by Congress or received as tolls for the transmission of messages over the military telegraph lines, have been carefully examined and any errors found therein adjusted prior to transmitting the accounts to the Auditor of the Treasury Department. A large amount of correspondence has been engendered by this work, and only by the closest application have the accounts and returns received the administrative scrutiny of this Bureau within the limit of time allowed by law.

DISBURSING DIVISION.

The report of Capt. Robert Craig as disbursing officer (Table 3) furnishes information regarding contracts and disbursements, as required by law and regulations. In addition to his duties as assistant and disbursing officer Captain Craig has had charge of the general supply depot of the Signal Corps, and necessarily a large amount of clerical work devolves upon him. His own clerical labors have been supplemented by those of the storekeeper and assistant, who have been diverted from their special duties to an extent prejudicial to the interests of the public service.

A clerk for the disbursing officer is greatly needed, and an estimate for a clerk of class 2 has been submitted, and it is hoped that Congress will give the much-needed relief.

In this office fidelity, zeal, and application have characterized the clerical force, who are inadequate in numbers only. The two clerks of class 1 do work of a character that should insure increased pay, as promotion is now practically impossible.

WAR DEPARTMENT LIBRARY.

In obedience to the instructions of the Secretary of War, the Chief Signal Officer has been in supervisory charge of the War Department library during the year.

Exclusive of the public documents and Government publications in general, there have added to the library 2,387 books and pamphlets. Of this number 1,139 were acquired by purchase, 164 by exchange, and 1,084 received as gifts, principally from various military and historical organizations of the country. An average of 47 volumes have been loaned daily for reading or consultation. In addition, there have been extensive personal researches on the part of the library force for official purposes.

The extension of the use of the library to officers of the Army on duty at distant army posts was inaugurated in August, 1894. The eagerness with which this professional privilege has been greeted is exhibited by the fact that no less than 545 books were issued by registered mail during the remainder of the fiscal year. The selections

made offer undoubted evidence of the intellectual activity of the officers of the Army in properly and theoretically fitting themselves for important duties. No book has been lost and none materially damaged.

Books purchased for the library are those suited for professional research or for reference purposes. They cover such subjects as military art and science, histories of American and foreign wars, military biographies, and descriptive and geographical works, especially those pertaining to the continent of America. Attention is given to countries engaged in warfare or where such contests are prospective, in order that officers may intelligently follow current military operations and keep pace with the march of events in connection with these countries.

Particular efforts have been made to obtain books and pamphlets relating to American wars, especially those regarding the war for the Union. A large number of pamphlets and books have been donated to the library in answer to widely distributed circular letters. Gradually the breaks and deficiencies in important military serial publications are being filled by purchase or exchange.

The fiction of the library, covering nearly 2,000 volumes, has received no additions for the past five years. Frequently repaired or rebound and continually in use, the greater part of these volumes are in unfit condition for circulation, and if access could be had to any other public library, it would be advisable to condemn and destroy almost the entire collection. The only fiction that properly belongs to this library relates entirely to a soldier's profession, such as the works of Lever, Payn, and King.

Under the provisions of General Orders all photographs and photograph negatives were transferred to the library. By far the most extensive and most important of these collections is that known as the Brady war photographs. This collection has been as thoroughly examined as has been possible with the limited and overworked library force. The negatives and proofs of the collection showed every sign of neglect and improper treatment. From the rough numerical list it would appear that there were 6,323 negatives in the original collection. If such is the case, about 800 are missing. Of these some 700 are entirely missing, and the others have been broken and thus practically destroyed. About one-fourth of the proofs are wrongly numbered, and many photographs and negatives are unidentified. Some negatives that may be considered priceless have been broken or been otherwise injured.

Of the large number totally missing it is impossible to say whether or not precious and invaluable photographs have disappeared.

All unbroken negatives have been properly wrapped, numbered, and filed, and whenever needed can now be produced without delay. The process of identifying negatives and photographs is proceeding slowly, and when this is completed an attempt will be made to prepare a catalogue showing the number of each negative, its date, the place where made, and the name of the person and the war scene therein portrayed.

The practice of loaning these negatives to private parties or for commercial enterprises has fortunately been abandoned, owing to the certainty, based on past experience, that this collection would shortly be made nearly valueless by destruction or injury. In exceptional cases where such action would be in the public interests or as a proper concession to surviving relatives permission is accorded for reproductions of selected photographs under rigid restrictions insuring the safety of the negative.

In view of the fact that this collection has cost the Government of the United States \$25,000, and that it portrays certain physical aspects

of the war for the Union, as well as the features of most of the prominent actors connected therewith, it seems neither advisable nor patriotic that these evidences of the great civil conflict should remain inaccessible to the general public. It is recommended, therefore, that Congress be asked to authorize the reproduction of the most valuable and important war photographs of this collection, not exceeding 2,000 in number, which should form supplementary volumes of the Official Records of the War of the Rebellion. Certain artistic processes lend themselves to suitable reproductions, which would thus preserve, at a very moderate cost, these graphic representations of the greatest of American if not of all wars.

The library force should be placed on a permanent and satisfactory footing. The number of the clerks has been reduced from five to three (one of whom is detailed from another bureau), while the work has been increased by some 40 per cent. The salary of the librarian should be restored to its former rate, \$1,800, and the assistants should receive not less than \$1,400 and \$1,200.

The ability, conduct, and application of the present clerical force are of the highest character, and the removal of anyone from the library, where special knowledge and skill are indispensable to the proper performance of their duties, would be detrimental to the public service. It may be added that only the unremitting application of an intelligent, capable force can properly attend to the current library work and the distribution of the public documents of the War Department.

DISTRIBUTION OF PUBLIC DOCUMENTS.

Under the act of Congress approved January 12, 1895, the Chief Signal Officer of the Army was designated by the Secretary of War to supervise the distribution of such documents. This law radically changes the system of distribution and arranges for the disposal of surplus public documents under certain restrictions. It has been impossible to fully carry out the provisions, but they are being conformed to as rapidly as the decisions and actions of the superintendent of documents will permit. There are at least 10,000 documents ready to be transferred as the law directs, which, through lack of room and force on the part of the superintendent of documents, remain yet in the storeroom of the library, seriously interfering with the arrangement and disposal of the unsorted documents, of which probably as many more yet remain untouched. The distribution of new documents is proceeding regularly and systematically, this additional work being performed without any increase of library force. Nearly 30,000 publications have been handled in the way of receipt and transfer during the year.

A. W. GREELY,

Brigadier-General and Chief Signal Officer, U. S. Army.

Hon. DANIEL S. LAMONT,

Secretary of War.

TABLE 1.

Number of officers and enlisted men reported as proficient in signaling, tabulated according to arm of service.

Regiment	Off- cers.	Enlisted men.	Regiment.	Off- cers.	Enlisted men.
Cavalry:			Infantry—Continued:		
First.....	4	18	Third.....	8	33
Second.....	17	57	Fourth.....	10	43
Third.....	2	8	Fifth.....	12	50
Fourth.....	15	72	Sixth.....	8	34
Fifth.....	12	47	Seventh.....	6	21
Sixth.....	6	39	Eighth.....	19	78
Seventh.....	8	19	Ninth.....	10	40
Eighth.....	9	43	Tenth.....	10	28
Ninth.....	8	41	Eleventh.....	10	36
Tenth.....	11	41	Twelfth.....	8	34
Total.....	89	405	Thirteenth.....	7	44
			Fourteenth.....	8	27
Artillery:			Fifteenth.....	0	6
First.....	15	40	Sixteenth.....	3	23
Second.....	14	51	Seventeenth.....	9	39
Third.....	12	56	Eighteenth.....	10	28
Fourth.....	11	38	Nineteenth.....	6	57
Fifth.....	21	95	Twentieth.....	9	21
Total.....	73	281	Twenty-first.....	6	24
			Twenty-second.....	5	31
Infantry:			Twenty-third.....	14	37
First.....	4	10	Twenty-fourth.....	4	6
Second.....	12	51	Twenty-fifth.....	7	30
			Total.....	196	862

Number of hours devoted to signal instruction and practice.

Department	Day.	Night.	Total.	Average per man.
California.....	5,143	212	5,355	8
Colorado.....	9,944	78	10,022	4.9
Columbia.....	2,756	78	2,834	3.9
Dakota.....	24,199	276	24,475	11.9
East.....	19,540	81	19,621	4.7
Missouri.....	7,791	.....	7,791	3.4
Platte.....	1,722	182	1,904	1.4
Texas.....	3,335	184	3,519	2.8
Total.....	75,430	1,091	76,521	4.7

tations and number of officers and enlisted men reported as qualified to cut in on a telegraph line and operate it at the rate of fifteen words a minute.

Post.	Offi- cers.	Enlisted men.	Post.	Offi- cers.	Enlisted men.
leatraz		4	Missoula		2
ngel Island	1	5	Monroe	8	17
pache		5	Myer		1
assiniboine	3	6	Niagara		3
arrancas		3	Niobrara		4
ayard		4	Omaha		7
enicia Barracks	1	1	Pembina	1	2
lias	3	1	Plattsburg Barracks	1	1
radly	1	1	Preble		1
uford		2	Presidio	1	7
anby		3	Reno	1	1
lark	5	12	Riley	7	7
olumbus Barracks	2	3	Ringgold	1	
uster	1		Robinson	1	
. A. Russell	2	1	Sam Houston		4
avids Island		1	Sequoia National Park	1	2
ouglass		2	Sheridan		1
u Chesne		1	Sherman	2	2
rant	1	2	Sill	1	2
amilton	1	4	Spokane		3
lancock		2	Stanton		1
luschuca		1	Thomas	5	1
ackson Barracks	1	1	Trumbull	1	1
leogh		4	Vancouver Barracks		2
ley West Barracks		2	Wadsworth		2
ogan	1	4	Washakie	1	2
ladison Barracks	2	7	Wayne	1	2
lason		1	Whipple Barracks		2
leHenry		2	Wingate		6
leIntosh		2	Yates	2	5
lePherson	1	7	Yellowstone	2	
leade	6	32	Yosemite National Park	3	3

TABLE 2.

ask receipts at each station on the United States military telegraph lines for the year ending June 30, 1895, on account of Government tolls.

Department of the Colorado:	
Carthage, N. Mex	\$62. 87
Cooleys Ranch, Ariz	1. 20
Fort Apache, Ariz	47. 64
Fort Du Chesne, Utah	162. 36
Fort Grant, Ariz	44. 12
Fort Stanton, N. Mex	56. 41
Holbrook, Ariz	63. 56
Price, Utah	76. 37
San Carlos, Ariz	77. 26
Taylors Ranch, Utah	11. 04
Willcox, Ariz	170. 77
Department of Dakota:	
Bismarck, N. Dak	68. 20
Custer Station, Mont	32. 35
Fort Custer, Mont	27. 73
Fort Yates, N. Dak	47. 42
Department of Texas:	
Fort Brown, Tex	139. 22
Carrizo, Tex	10. 72
Laredo, Tex	292. 96
Fort Ringgold, Tex	494. 09
Total	1, 886. 29

Money value of free messages sent; also the aggregate of business transacted on the military telegraph lines during the fiscal year ending June 30, 1895.

Station.	Money value of free mes-sages sent.	Number of com-mercial messages sent.	Number of com-mercial messages received.	Number of free messages sent.	Number of free messages received.	Total number of messages handled.
Department of the Colorado:						
Carthage, N. Mex.....	\$48. 47	523	433	229	284	1, 469
Cooleys Ranch, Ariz.....	31. 17	10	7	90	63	170
Fort Apache, Ariz.....	756. 83	331	213	2, 095	1, 644	4, 283
Fort Du Chesne, Utah.....	38. 37	1, 172	806	335	214	2, 527
Fort Grant, Ariz.....	892. 82	260	409	2, 791	2, 899	6, 359
Fort Stanton, N. Mex.....	47. 95	429	507	284	253	1, 473
Holbrook, Ariz.....	152. 02	307	417	492	902	2, 118
Price, Utah.....	36. 00	806	1, 172	214	335	2, 527
San Carlos, Ariz.....	775. 74	458	450	2, 079	1, 961	4, 949
Taylor's Ranch, Utah.....	14. 45	92	59	72	43	266
Willcox, Ariz.....	642. 52	965	692	2, 319	1, 984	5, 900
Department of Dakota:						
Bismarck, N. Dak.....	79. 67	577	415	636	1, 058	2, 688
Custer Station, Mont.....	44. 71	286	284	348	351	1, 269
Fort Custer, Mont.....	33. 84	286	288	347	348	1, 269
Fort Yates, N. Dak.....	147. 93	394	590	1, 062	641	2, 687
Department of the Missouri:						
Fort Reno, Okla.....	30. 93	349	411	285	347	1, 392
Fort Sill, Okla.....		639	640	1, 207	1, 227	3, 713
Department of Texas:						
Fort Brown, Tex.....	117. 07	1, 175	1, 175	421	664	3, 145
Laredo, Tex.....	175. 46	1, 473	1, 363	614	846	4, 296
Fort Ringgold, Tex.....	689. 20	1, 968	1, 883	1, 994	1, 906	7, 751
Total	4, 805. 75	12, 500	12, 214	17, 914	17, 970	60, 308

TABLE 3.—Condition of appropriations.

The condition of the appropriations for the fiscal year ending June 30, 1895, with the expenditures thereunder, balances, and probable demands on such balances, report of which is required to be rendered by the act of Congress approved May 1, 1820, is as follows:

Signal service of the Army, 1895:	
Appropriated	\$17, 000. 00
Expended	13, 283. 44
Balance	3, 716. 56
Probable demands	3, 612. 30
Military telegraph line, Fort Ringgold, Tex., to Fort McIntosh, Tex. (permanent specific appropriation):	
Appropriated	17, 000. 00
Expended	14, 839. 82
Balance	2, 160. 18
Military telegraph line, El Paso, Tex., to New Fort Bliss, Tex., 1895:	
Appropriated	980. 00
Expended	834. 87
Balance	125. 13
Probable demands	33. 75

REPORT OF THE CHIEF OF THE RECORD
AND PENSION OFFICE.

R E P O R T
OF THE
CHIEF OF THE RECORD AND PENSION OFFICE.

RECORD AND PENSION OFFICE, WAR DEPARTMENT,
October 1, 1895.

SIR: The record of this office for the past fiscal year does not differ materially from that of previous years, except in the fact that the current work has been of a much more difficult character and has required the expenditure of much more time and labor than that of any previous year in the history of the office. This condition is a natural one, and may be expected to continue for some years to come, because the greater part of that class of pension, pay, bounty, and other claims arising out of the service of volunteers in the war of the rebellion and earlier wars, in which no action by the War Department is required beyond that of furnishing to the officials of other Departments who are charged with the adjudication of the claims a simple statement of military service or medical history as shown by the official records, has been settled and finally disposed of; but in a very large proportion of the claims that are now pending in or being presented to other Departments, technical questions are involved that require special investigation or administrative action on the part of this office.

In other words, as the period of war service becomes more remote the proportion of simple and easily adjudicated cases diminishes, while that of the more difficult and complicated class steadily increases. This change in the character of the cases received and considered by this office, and the consequent increase in the labor involved in their disposition, has been noticeable for several years, but was especially marked during the past fiscal year. While the total number of cases received during the year was slightly less than the number received during the previous year, 43,596 of these cases were of the class requiring special investigation or administrative action, being an increase of nearly 34 per cent in one year in the number of cases of the same class received and disposed of.

The transfer of the Confederate archives and the military records of the Revolution and the war of 1812 to this office has also added materially to the current work. Many reports and statements of service are furnished from the Confederate archives for use in connection with cases pending in the Court of Claims, to veterans' homes and associations to enable them to pass upon applications for relief or membership, and to societies and individuals for historical purposes. The recent revival of interest in matters pertaining to the Revolution, due largely to the efforts of the various patriotic societies, has given rise to a steadily increasing demand for information from the military records of

that war, and since those records have been reproduced and made available for use by the index-record card system the answering of inquiries with regard to them has become a prominent part of the general correspondence of the office and has increased the current work in a corresponding degree.

The approaching completion of the work of reproducing by the index-record card system the records of the personnel of the war of the rebellion, the Mexican war, and the various Indian wars enabled the chief of the office to recommend a reduction of 300 in the clerical force of the office, to take effect at the beginning of the last fiscal year, and a similar reduction of 50 to take effect at the beginning of the present year, or a total of 350. These reductions were made accordingly, and the permanent annual saving resulting therefrom amounts to \$400,000 in salaries alone. This great saving was made possible chiefly through the operation of the index-record card system which had its origin and first practical application in this office, although it has since been adopted, in whole or in part, by other bureaus of the Government, State officials, and private business establishments. In the light of the results that have been accomplished in this office by means of that system, further comment as to its value appears to be unnecessary.

Notwithstanding the increased labor, the current business, as heretofore during the existence of the Record and Pension Office, has been kept up to date, 93 per cent of the cases received, averaging 700 per day, having been disposed of within twenty-four hours from the time of their receipt, the remaining 7 per cent being delayed only so long as was necessary for the investigation and consideration that their importance required, and at the close of business hours on the last day of the fiscal year not one case remained unacted upon. The total number of cases received and disposed of during the year was as follows:

From the Pension Office.....	152,075
From the office of the Auditor for the War Department.....	25,242
Remuster cases	11,026
Desertion cases	2,371
All other cases, miscellaneous.....	20,415
Total.....	211,129
On hand June 30, 1895.....	None.

REMOVAL OF THE CHARGE OF DESERTION.

At the date of the last annual report the act of March 2, 1889, and the acts amendatory thereof, providing relief for "certain volunteer and regular soldiers of the late war and the war with Mexico" charged with the crime of desertion, had expired by statutory limitation, but by an act approved March 2, 1895, the original enactment was so amended as to remove the limitation of time within which applications for relief may be received and acted upon, thus enabling the Department to extend to present applicants the same measure of relief that was afforded those who earlier became aware of the existence of the law and took advantage of its provisions. The number of worthy cases brought to the attention of the Department since the revival of the law sufficiently attests the propriety of the amendatory legislation.

REMUSTER.

The time for filing claims under the act of June 3, 1884, as amended by the act of February 3, 1887, and extended by the acts of August 13, 1888, and February 9, 1893, expired on the 3d of June last. These

acts give much of the status of regularly mustered commissioned officers of volunteers to persons who were duly commissioned as officers of volunteer organizations, and who performed the duties of the grades to which commissioned with legally constituted commands (or were prevented from performing duty by reason of capture by the enemy, or by wounds or other disabilities contracted in the line of duty), but who were not actually mustered into the service of the United States, as of the grades to which commissioned, during or for the period in which the service was rendered. A knowledge of this legislation does not appear to have been very generally diffused among the class of persons for whose benefit it was intended until the last year of the existence of the law, but then, probably owing to the near approach of the time when it would become obsolete, special efforts to give publicity to its provisions appear to have been made by persons acquainted with them. As a result more than 11,000 applications were made to this Department during the last fiscal year for the recognition necessary to obtain the relief provided by the law, an excess of nearly 7,000 over the highest number of applications filed during any previous year of the existence of this office. There are undoubtedly some deserving persons yet ignorant of the existence of this legislation who would be benefited by its reenactment, and as the law was just in its inception it would seem to be no more than equitable that it should be revived.

INDEX-RECORD CARD WORK.

The work of reproducing the military records by the index-record card system has made satisfactory progress. At the date of the last annual report the carding of the organization and miscellaneous rolls and descriptive books of the volunteer armies of the war of the rebellion and all prior wars, except those of the Revolution and 1812, had been completed and work had been begun on the regimental returns. During the last fiscal year and up to the present date work on the latter class of records has been continued and those of thirteen States have been completed.

The energies of the office have, however, been directed to the reproduction of the records of the Revolutionary war, which were transferred to this Department from other Executive Departments of the Government for that purpose. The transfer of these records, previously directed by Congress, was delayed somewhat because the work of carding the records of the war of the rebellion had not sufficiently progressed to justify a diversion of the labor of the clerical force from that work, and the Department was therefore not ready to receive the records, but on the 10th of September, 1894, the first of the Revolutionary war records were received, and on the 28th of the same month the work of reproducing them by the index-record system was begun, with the result that those relating to the personnel of the Revolutionary army have been "indexed and arranged for use" as contemplated by the acts of Congress directing their transfer.

Work on the reproduction of the records of the war of 1812 has also been in progress. Most of these records were received from the Treasury Department, where they had been filed as vouchers in the accounts of army paymasters, and the work of arranging them by States and organizations, which is very considerable, is a necessary preliminary to the work of their reproduction by the general index-record system. This preliminary work is well advanced, however, and the final work

of transcription has been entered upon with the expectation that by the end of the present fiscal year these valuable records will have been placed beyond the danger of destruction and that the historical material which they contain will then be available for the use of those to whom it is of interest.

The index-record card work can not be adequately represented in figures, but it may be stated that during the last fiscal year 2,673,201 military cards and 20,058 medical cards were added to the number previously reported, making a total of 36,867,123 military cards and 6,953,285 medical cards, aggregating 43,820,408 prepared to June 30, 1895.

RECORDS OF THE REVOLUTIONARY WAR AND THE WAR OF 1812.

Most of the military records of the Revolutionary war and the war of 1812 that are in the possession of the United States were until recently distributed among several of the Executive Departments, chiefly the State, Treasury, and Interior Departments. But by an act of Congress approved July 27, 1892, it was provided that the "military records of the American Revolution and of the war of 1812," then "preserved in the Interior and Treasury Departments," should be transferred to the War Department, to be "preserved in the Record and Pension Division (Office) of that Department," and that they should be "properly indexed and arranged for use"; and by an act approved August 18, 1894, it was further provided that "all military records, such as muster and pay rolls, orders, and reports relating to the personnel or the operations of the armies of the Revolutionary war and of the war of eighteen hundred and twelve," then filed in *any* of the Executive Departments, should be transferred to the War Department, "to be preserved, indexed, and prepared for publication."

As a result of this legislation a large mass of records has been received in this office from the Department of State and the Treasury and Interior Departments, and, as stated in a preceding paragraph, those relating to the personnel of the Revolutionary war have been indexed and arranged for use. The office is now answering promptly all inquiries relative to officers and enlisted men, engaged in that war and is furnishing so much of the military history of those whose names are borne on the rolls as is afforded by the rolls themselves.

The records of the Revolutionary war that have been received embrace muster and pay rolls, army and regimental returns, rosters of officers, orderly books, correspondence, and miscellaneous papers, but, while voluminous, these records are by no means complete as to the personnel of the Revolutionary armies, and they are especially incomplete as to the operations of these armies, no battle reports and but very few other records of military operations having been found.

As to the personnel of the Army, it should be stated that there are many organizations, both of the Continental troops and of the State militia, of which this office has no record whatever, while of many other organizations the records are but partial and imperfect. It is not, therefore, conclusive that because no record of any individual is found here he did not serve as an officer or enlisted man in the Continental or State forces during the war of the Revolution, nor is it at all certain that because only a partial record of service is found in this office that a complete record may not be obtained from some other source of information. Consequently it is the practice of the office in replying

to requests for information from these records, in cases where no record or but a partial record of service is found, to inform correspondents of the imperfect character of the records and to point them to other probable sources of information.

The reason for the incompleteness of this collection of the records of the Revolutionary war is not far to seek. The War Department, the legal and proper place of deposit of the military records of the Government, was not organized until some years after the close of the Revolutionary struggle, and there appears to have been no central place of deposit for these records, many of which, probably for this reason, were retained by individual military officials, and many others were placed with the archives of the States in which the troops were recruited, where they now remain, while some of those formerly filed in the War Department are believed to have been destroyed by fire.

The generally fair condition of the Revolutionary war records is a matter of surprise, their condition being much better than that of the records of the war of 1812 so far examined, many of which are in an advanced stage of dilapidation and decay.

TRANSCRIPTS OF MILITARY RECORDS.

Since the close of the civil war, and even from a period preceding its close, numerous and persistent applications have been received at this Department from State officials for copies of the rolls, or individual records of troops from their respective States, for the purpose of completing State records of service. So far as can be ascertained it was the practice up to 1867 to furnish such copies when the labor involved was not excessive, but when, as was usually the case, the demands were beyond the clerical capacity of the office, the applicants were so informed and the desired copies were denied. However, it was soon adopted as a rule of practice to deny applications for copies of the records to all but officials of the General Government. The reason for this latter practice was officially stated by Adj. Gen. E. D. Townsend, in 1872, as follows:

A long-established rule of the Departments of the General Government is adverse to giving copies of muster rolls or extracts of individual military history to any person except to other Departments, and then only to be used in the settlement of claims by such Departments. The amount of fraudulent claims sought to be imposed on the Treasury is enormous, and would be enough to ruin any country if not checked. The only check of any value is the records possessed by the various Departments, which, being compared one with another, illustrate the value of the claim. Thus used these records serve in favor of the claimant quite as much as the Government. Over 11,000 copies of muster rolls have been demanded of this office to complete the military history of several States. But because the information contained by them would destroy the checks against fraud, if allowed to go beyond the Government Departments, they have been respectfully denied by the Secretary of War.

The action and views outlined in the foregoing extract appear to have governed the practice of the Department until about 1884, when, in reporting upon a bill "directing the Secretary of War to furnish States with copies of the record of troops," Adj. Gen. R. C. Drum expressed himself as in favor of the adoption of some such measure with certain conditions.

The proposed legislation was not enacted, but the Department had reached the conclusion that the time had arrived when the "urgent demands of adjutants-general of States" for copies of the rolls required to complete State records should be complied with, and, in the absence of legislation providing the necessary clerical force and because of the inadequacy of accommodations for an increased force of clerks, even

should such force be provided by Congress, a plan was adopted in 1886 of detailing a number of clerks for work after the usual office hours, to be compensated by the States for which the extra hours of labor were performed.

Under this arrangement copies of the rolls or information necessary to the completion of the State records were furnished to the authorities of several of the States, but the plan adopted was found to be so demoralizing to the clerks and so destructive of the military records, then fast falling into decay, that in 1889, upon the organization of the Record and Pension Division (now the Record and Pension Office) of the War Department, the practice then prevailing was suspended and the undivided energy of the clerical force was directed exclusively to the task of bringing up the arrears of current work and of reproducing and preserving the records by means of the index-record card system.

So important was the consideration of saving the records from destruction that in 1892 the Secretary of War deemed it necessary to issue a positive order (formulating a previously adopted rule) that these records should be referred to only when necessary in the transaction of the official business of the Government, and it was especially ordered that until the work of transcribing them on the index-record cards had been brought to completion no requests for information to complete the records of States should be entertained. This rule was uniformly adhered to until Congress provided that transcripts of the records shall be furnished the governors of the respective States upon their application therefor, but at the expense of the States and under regulations to be prescribed by the Secretary of War. The text of this legislation in the legislative, executive, and judicial appropriation bill for the fiscal year ending June 30, 1896, is as follows:

And the Secretary of War shall, upon the application of the governor of any State, furnish to such governor a transcript of the military history of any regiment or company of his State, under such regulations as the Secretary of War may prescribe, at the expense of such State.

Pursuant to this enactment, regulations in execution thereof were prescribed by the Secretary of War, of which the following is a copy:

WAR DEPARTMENT, *Washington, D. C., April 4, 1895.*

ORDERS.

The act approved March 2, 1895, making appropriations for the legislative, executive, and judicial expenses of the Government for the fiscal year ending June thirtieth, eighteen hundred and ninety-six, and for other purposes, provides in the section relating to the Record and Pension Office of the War Department that the Secretary of War shall, upon the application of the governor of any State, furnish to such governor a transcript of the military history of any regiment or company of his State, under such regulations as the Secretary of War may prescribe, at the expense of the State. Under this provision of law, transcripts of the military records of organizations credited to the several States will be furnished to the governors of the States to which such organizations were credited, upon the request of the governors and at the expense of the States, under the following regulations:

All applications for transcripts of records under this law should be made over the signatures of the governors of the States in interest, should be addressed to the Secretary of War, and should designate specifically the records of which transcripts are desired.

Upon the receipt of such an application from the governor of any State, he will be furnished with an estimate of the cost of making the transcripts specified in his application, and will be notified that funds sufficient to cover the estimated cost should be deposited with the disbursing clerk of the War Department. No work of this character will be undertaken until an amount sufficient to cover its probable cost shall have been deposited with the disbursing clerk and he shall have certified that fact to the Chief of the Record and Pension Office.

If it is found upon completion of the work in any case that the amount deposited is in excess of the actual cost of the work, the amount in excess will be returned to

the person making the deposit. Whenever it is found as work progresses that the amount deposited is insufficient to cover the cost of the whole work the governor of the State in interest will be notified to that effect, and will be furnished with an estimate of the amount necessary to complete the work. In every case work will be suspended before its cost shall have exceeded the amount deposited to meet it.

All transcription of records under the provisions of the law cited above will be done during office hours by the regularly authorized employees of this Department, under the direction of the Chief of the Record and Pension Office, who will keep a record of the time of persons employed on the work and of the cost of materials used therein, and will furnish the disbursing clerk of the Department with a statement of the cost of both labor and materials to the Government. The amount of such cost will then be covered into the Treasury by the disbursing clerk, out of the funds deposited with him by the State in interest to defray the expense of the work.

The transcript which will be furnished will be literal copies of the military records of regiments, companies, troops, and batteries. No compilation, consolidation, or summarizing of records will be undertaken, and no copies of records other than those herein specified will be furnished.

Items of information relative to individual officers and enlisted men, except as such items may be included in the copies of regimental, company, troop, or battery records hereinbefore provided for, will not be furnished to complete the records of States or of regimental or other associations. Not more than one copy of any record will be furnished to any State.

Persons not in the employ of and under the legal control of the War Department will not be allowed to copy or have access to any of the records filed in the Record and Pension Office.

In view of the fact that provision has been made by law so that any State can obtain transcripts of the original records of the organizations credited to it, and because the dilapidated condition of the rolls and other records of the volunteer armies, caused by the constant handling to which they have been subjected during the past thirty years, makes it necessary that a strict rule for their preservation shall be adopted and that they shall be referred to only when reference to them is absolutely necessary, and because, further, of the limited clerical force and the demands made upon it by the current work of the Department, it is hereby ordered that hereafter no copies of records pertaining to military organizations credited to the several States shall be furnished except to the governors of States as hereinbefore provided, or as otherwise specifically required by law.

DANIEL S. LAMONT, *Secretary of War.*

Very few applications have as yet been made for copies of military records under the legislation referred to, and but little experience has been had in the application of the regulations adopted, but it is believed that these regulations (which have received the sanction of the Comptroller of the Treasury as to their financial features) are well adapted to the purpose for which they are intended.

CLERICAL FORCE.

By reason of the progress of the work of carding the military records, and upon the recommendation of the chief of the office, the clerical force of this office was reduced 300 in number for the fiscal year ended June 30, 1895. In anticipation of this reduction the policy had been previously adopted of leaving vacancies unfilled, thus reducing as much as possible the personal hardships necessarily attendant upon a large reduction of the clerical force.

Following the same policy of a gradual reduction of force in concert with the progress of the work of reproducing the records, a further reduction of 50 clerks, to take effect at the beginning of the present fiscal year, was recommended. This reduction was made by Congress, but, as in the case of the previous reduction, vacancies occurring from the usual casualties of the service were left unfilled and the hardships of the reduction were much diminished, but 18 discharges having been necessary to meet the conditions of the new appropriation. In making the selections of those to be discharged due regard was given to the efficiency records of the clerks, in which a liberal allowance was made

on account of honorable military or naval service, and no clerk having a record of such service was discharged unless his retention in the office would have worked manifest injury to the public service.

It is gratifying to be able to state that since the date of the last annual report provision has been made by Congress for the relief of the heirs and legal representatives of the employees of this office who lost their lives in the disaster at the Ford's Theater Building in 1893.

Very respectfully,

F. C. AINSWORTH,
Colonel, United States Army,
Chief Record and Pension Office.

The SECRETARY OF WAR.

**REPORT OF THE WAR RECORDS' BOARD
OF PUBLICATION.**

REPORT

OF THE

BOARD OF PUBLICATION OF WAR RECORDS.

WAR DEPARTMENT, WAR RECORDS OFFICE,
Washington, June 30, 1895.

SIR: The Board of Publication of the Official Records of the Rebellion begs leave to submit the following report of its operations during the fiscal year ended June 30, 1895:

Eleven thousand copies of Volume XLVI, Part I, have been printed and distributed during the year, and Parts II and III of Volume XLVI, Parts I, II, and III of Volume XLVII, and Part I of Volume XLVIII, all of Series I, have been put in type and indexed. These volumes cover the final campaigns of the war in Virginia and the Carolinas and in the trans-Mississippi region. The remaining volumes of this series will be in type before the close of the current calendar year. Volume I of Series II, relating to prisoners of war, is ready for printing, and will be distributed in July next. Enough matter to fill several volumes of this series has been selected and copied, and the material for a second volume is in the hands of the printer. The remaining volumes of this series are well advanced toward completion. Two volumes of Series IV are in type, and matter for the rest of this series is nearly ready for the printer. The work of examining the records of the War Department and the bureaus with a view to the selection of documents for publication in the third series has been carried on throughout the year. The matter for the year 1861 has been selected, and the examination for the year 1862 is now being made. It is hoped that the matter for this series will be selected and, in great part, copied during the coming fiscal year.

Seven parts of the Atlas, including Plates CXXXI to CLXXI (parts 28 to 34) have been engraved, printed, and distributed during the year. The remaining part will be distributed in July, 1895. This will be followed by an index and table of contents, and will complete this important publication.

The examination of files and archives and the work of selecting, copying, and comparing material for the remaining volumes of the several series has been continued without interruption during the entire fiscal year. The following notes of work accomplished in the several departments of publication will convey an idea of the variety and amount of labor required in connection with the preparation and publication of the several volumes: 12,163 books have been received, and 31,513 have been distributed; 88,000 copies of parts 27 to 34 of the Atlas to accompany the Official Records of the Rebellion have been received, and 98,511 have been sold and distributed; 8,217 letters,

cards, etc., have been received, and 7,385 letters, cards, circulars, etc., have been mailed in response to inquiries; 120,024 labels have been prepared, and 130,024 labels have been compared and verified during the year. During the same period seven books have been indexed, wholly or in part (100,000 cards having been used for this purpose); 54,000 folios of manuscript have been copied and compared; 7,783 pages of proofs, in galleys and page forms, have been examined, and 46,698 sheets of manuscript have been verified, corrected, and prepared for publication.

In closing, it again gives the Board great pleasure to recognize the efficient assistance it has received from the officers engaged on the work and from the employes connected with the different departments of the office. Their labors have been zealous and untiring, and the services rendered by them have been entirely satisfactory.

GEO. B. DAVIS,
Major and Judge-Advocate, U. S. A., President,
LESLIE J. PERRY,
Civilian Expert,
JOSEPH W. KIRKLEY,
Civilian Expert,
Board of Publication.

The SECRETARY OF WAR.

**REPORT OF THE BOARD OF COMMISSIONERS
OF THE SOLDIERS' HOME.**

REPORT

OF THE

BOARD OF COMMISSIONERS OF THE SOLDIERS' HOME.

THE SOLDIERS' HOME,
OFFICE OF THE BOARD OF COMMISSIONERS,
Washington, D. C., October 19, 1895.

SIR: Under the requirements of section 1 of the act of Congress approved March 3, 1883, prescribing regulations for the Soldiers' Home in the District of Columbia, I have the honor to submit the following report of the Board of Commissioners of the Soldiers' Home for the year ended September 30, 1895.

The changes in the number of beneficiaries during the year have been as follows:

	Regular.	Tempo- rary.	Total.
On the rolls September 30, 1894.....	993	72	1,065
Admitted since.....	151	181	332
Readmitted since.....	95		95
Total.....	1,239	253	1,492
Withdrawn from the Home.....	160		160
Dropped, dismissed, etc.....	91	138	229
Died.....	43	12	55
Transferred to permanent roll.....		46	46
Total.....	294	196	490
Leaving on the rolls September 30, 1895	945	57	1,002

This shows a decrease of 63 since last report.

Of the total number (1,002) on the rolls September 30, 1895, 622 were present at the Home, 312 on outdoor relief, 46 on furlough, 6 suspended, and 16 in the Government Hospital for the Insane.

The total number of deaths that occurred was 55, of which 30 died at the Home, 18 while on outdoor relief, 2 in the Government Hospital for the Insane, 3 on furlough, and 2 near the Home.

The daily average number of inmates during the year was 678. Last year the average was 734 and the preceding year 751.

Temporary relief was granted to destitute discharged soldiers who were not entitled to admission to the extent of 10,953 meals, and 263 were provided with lodgings for a few nights each.

The following statement shows the amounts received and expended during the year and the amount of the permanent fund of the Home in the United States Treasury:

PERMANENT FUND.

Balance in the United States Treasury October 1, 1894.....	\$2, 574, 036. 79
Settlements for the current year.....	\$188, 006. 04
Amount withdrawn for current expenses.....	72, 000. 00
	<u>116, 006. 04</u>
Balance in the United States Treasury September 30, 1895	<u>2, 690, 042. 83</u>

ACCOUNT OF THE TREASURER OF THE HOME.

Remaining on hand October 1, 1894	10, 440. 15
Received during the year:	
From the permanent fund.....	72, 000. 00
Interest on the permanent fund.....	78, 602. 05
Effects of deceased inmates.....	813. 19
Miscellaneous receipts.....	4, 865. 29
Total receipts	<u>166, 720. 68</u>
Disbursements:	
Current expenses.....	\$159, 074. 58
Permanent improvements.....	1, 965. 36
	<u>161, 039. 94</u>
Balance on hand September 30, 1895.....	5, 680. 74

The foregoing statement of the treasurer's account shows a decrease of \$18,157.88 in the current expenses of the Home during the year and of \$10,743.85 in the expenditures for repairs and improvements. The decrease in the current expenses is largely due to the fact that many of the supplies for the Home have been procured at less cost than in the preceding year, thereby reducing the average cost per man from \$196.95 in that year to \$186.73 in the last. This reduction, together with the reduction of 56 in the average number of inmates in the preceding year, accounts for the lessening of the current expenses, no reduction having been made either in the quality or quantity of the food or clothing furnished the inmates, which have been fully kept up to the best requirements.

Some of the principal items of expense during the year were:

Subsistence.....	\$34, 708. 86
Expenses of the hospital.....	17, 156. 98
Clothing for inmates.....	10, 884. 50
Farm, garden, and ornamentation of grounds.....	17, 229. 53
Extra-duty pay and monthly allowance to nonpensioners.....	20, 322. 48
Commutation to inmates residing outside.....	26, 677. 00

It is a fallacy common in the Army that the contribution of 12½ cents per month from the enlisted men is, if not the principal, at least one of the largest sources of income from which the Home derives its support. The reverse is true; it is the smallest. The largest is from court-martial fines, and is shown by the following statement giving the sources of income and the amounts placed to the credit of the Home during the year:

General court-martial fines.....	\$91, 283. 04
Deserters and dishonorably discharged men.....	59, 223. 00
Interest on the permanent fund.....	78, 602. 05
Deductions of 12½ cents.....	37, 500. 00
Total receipts.....	<u>266, 608. 09</u>

The treasurer's account of funds received for the inmate pensioners shows that he had on hand September 30, 1894, \$46,613.36; that he received during the year \$83,189.20, and paid to the pensioners and legal heirs of deceased inmates \$83,176.52 (only \$12.68 less than he received), leaving on hand deposited in the United States Treasury as required by law, \$46,626.04.

The report of the governor of the Home shows that of the 622 resident inmates, 510 are receiving pensions, as follows: 160 receive from \$6 to \$8 per month; 281 from \$10 to \$16; 51 from \$17 to \$20, and 18 from \$22 to \$30.

There are now 155 beneficiaries of the Home who served in the war with Mexico; 119 of these are drawing outdoor relief; and there are 432 who served in the war of the rebellion, of whom 128 are on outdoor relief—a total of 587 members who had war service.

The attending surgeon's report shows that there were 426 patients treated in hospital; that the daily average was 76.34, and the average age of the patients 52.85; that 2,124 were treated at sick call, and the proportion of deaths to 100 inmates per annum was 4.29. The sanitary condition of the Home and grounds has been excellent, and there has been no prevalent or epidemic disease among the inmates during the year.

The act of Congress approved January 16, 1891, requiring the treasurer to keep current funds on deposit in the United States Treasury has been complied with, and all supplies for the Home which could be conveniently purchased by contract were so obtained.

The library of the Home contains over 6,000 volumes, and the average daily issue of books was 42. Nine daily papers, 23 weekly papers, and 16 monthly magazines are provided for the inmates.

The want of a commodious hall, specially adapted for theatrical performances, concerts, meetings, etc., has long been felt at the Home, the room now used in the basement of the Sheridan Building being entirely unsuitable for these purposes. The Board of Commissioners therefore decided to cause an amusement hall to be erected, to be in keeping with the other principal buildings of the Home. This received the approval of the Secretary of War May 10, 1895, and at the request of the Board of Commissioners the Quartermaster-General of the Army had the necessary plans prepared. Bids were invited by advertisement in newspapers and the contract for the building was awarded to W. W. Winfree, who was the lowest of seventeen bidders, at \$64,000, exclusive of heating apparatus. Contract was accordingly entered into with Mr. Winfree on August 15, 1895, under bond of \$25,000, the building to be completed by May 1, 1896. The Board appointed Mr. Bernard R. Green, civil engineer, as the supervising architect. The building will be of two stories—a low basement, and a principal story which constitutes the auditorium and entrance hall. The structure, in the main, will be of Vermont marble and brick—blue marble for the basement and white marble for the remainder of the walls—with a slate roof. The interior will have but little woodwork, and will therefore be nearly fireproof. It will have seating capacity for about 650. Ground was broken for the building August 28, and foundation footings and walls are now complete, the first courses of the marble superstructure are set, and the building of the stone walls is now steadily progressing.

In 1853 a tract of land on Pascagoula Bay, Mississippi, containing about 75 acres, was purchased by the Commissioners of the Home from Jacob Baptiste for \$5,000 for the purpose of establishing a branch asylum. This property (since known as the "Asylum lot") was occupied as a branch home for a short time, but was abandoned in the fall

of 1855, the running expenses being about \$5,000 per year with only four inmates. The lot has not been occupied by the Soldiers' Home since then, and as it is not needed for any purpose by the Home, representations of the facts were made by the Board in December last to the Secretary of War, which resulted in Congress passing an act, approved February 5, 1895, authorizing the Board of Commissioners to sell the land at public auction. Immediate steps were thereupon taken by the Board to carry this into effect, and for the purpose the services of Capt. O. M. Smith, commissary of subsistence at New Orleans, were secured to advertise the sale, etc., as required by the act. The property was duly advertised by him in three newspapers and by hand-bills, but on the day fixed for the sale at auction only \$800 was bid. It was therefore withdrawn and further action in the matter has been postponed.

It is proper to note in this report the retirement, on September 29, 1895, of Lieut Gen. John M. Schofield, who was president of the Board since August 14, 1888; also the assignment of Maj. Gen. Nelson A. Miles to the command of the Army on October 2, 1895, now president of the Board.

Regular meetings were held by the Board of Commissioners for the transaction of business pertaining to the Home, and monthly inspections were made as required by law.

The accompanying papers are reports by the governor, the attending surgeon, and the treasurer of the Home; a statement of receipts and expenditures; statements of the permanent fund and of the interest account; statements of accounts of the pension money of inmate pensioners and their rates of pension; the debit and credit accounts with the farm and garden, and report of members on outdoor relief, all of which are required to be published for distribution to the Army, as directed by the section and act mentioned in the first paragraph of this report.

Very respectfully,

NELSON A. MILES,
*Major-General Commanding the Army,
President Board of Commissioners.*

The SECRETARY OF WAR.

REPORT OF THE GOVERNOR OF THE SOLDIERS' HOME.

GOVERNOR'S OFFICE, UNITED STATES SOLDIERS' HOME,
Washington, D. C., September 30, 1895.

I have the honor to submit the following tables and my report upon the Soldiers' Home for the year ended September 30, 1895:

Number of pensioners present at the Home and rates of pension:

Seventy-three at \$6 per month; 87 at \$8; 39 at \$10; 184 at \$12; 1 at \$12.50; 33 at \$14; 2 at \$15; 22 at \$16; 46 at \$17; 2 at \$18; 3 at \$20; 1 at \$22; 9 at \$24; 8 at \$30.

Present September 30—

1895	510
1894	582
1893	584
Applying for readmission during the year	150
Readmitted	95
Temporarily readmitted for medical treatment	38
Denied readmission	17
Applying for outdoor relief	124
Granted outdoor relief	67
Denied outdoor relief	57
Inmates present having service in Mexico	36
Inmates on outdoor relief having service in Mexico	119
Total inmates having service in Mexico	155

Inmates present having service in the war of the rebellion.....	304
Inmates on outdoor relief having service in the war of the rebellion.....	128

Total inmates having service in the war of the rebellion..... 432

The following are the alterations since last annual report, dated September 30, 1894:

Permanent beneficiaries, September 30, 1894	993
Admitted during the year	151
Readmitted during the year.....	95

Total 1,239

Dropped:

By withdrawal.....	160
For absence without leave	17
For violation of orders.....	5
Dismissed	23
Abandoned the Home	2
Dropped by order.....	13
Died	43
From outdoor relief	31
	<hr/> 294

Permanent beneficiaries September 30, 1895..... 945

Temporary inmates:

Present September 30, 1894.....	72
Admitted during the year.....	181

Total temporary beneficiaries..... 253

Transferred to permanent roll.....	46
Dropped	131
Dismissed	7
Died.....	12
	<hr/> 196

Remaining temporary inmates..... 57

Total beneficiaries 1,002

Of whom 622 are inmates of the Home, 312 receive outdoor relief, 16 are in Insane Asylum, 46 are on furlough, and 6 are suspended. Decrease in the number of temporary inmates for the year, 15; decrease in the number of regular inmates for the year, 48. The aggregate is 63 less than was shown on last report. Of the 55 deaths reported, 3 died on furlough, 2 in Insane Asylum, 18 on outdoor relief, 29 in Home hospital, 1 on Home grounds, and 2 near the Home. Daily average number of inmates present during the year, 678½. Last year the average was 734 and the preceding year 751½.

Transients.—During the year 10,953 meals have been furnished to destitute ex-volunteer soldiers and 263 have been provided with lodgings for a few nights each.

Home library.—Number of volumes on hand, 6,040; lost, condemned, etc., during the year, 75; periodicals in reading room: Daily papers, 9; weekly papers, 23; magazines, monthly, 16. Number of books issued during the year, 13,200; average daily issue of books, 42; daily average of inmates visiting the library and reading room, 226. It will be observed that the number of regular inmates is less by 48 than last year and of temporary inmates 15. This is owing to the greater scrutiny in admitting men with large pensions and young men slightly injured in the line of duty, and is probably further accounted for by the fact that the improved prosperity of the country has made it easier for men willing to work to find employment during the past year than heretofore.

The number of men receiving outdoor relief has increased by 13 over the preceding year, mostly from the addition of Mexican veterans. I desire to recommend that the rules applying to veterans of the late war be also applied to Mexican veterans as regards outdoor relief. The present rule enables the Mexican veteran who served three months to receive outdoor relief without any reference to his pecuniary prosperity, whereas the veteran of four years' service in the late war is debarred from outdoor relief if he receives a pension of \$8 per month or if he owns even a moderate property.

The recommendation of the Board of Commissioners that large pensioners be required to pay a moderate sum for their maintenance and that estates of deceased inmates be made payable to the Home when unclaimed by heirs has been presented to Congress but never acted upon. I recommend that the presentation of these subjects be renewed to the coming Congress.

The law creating a prohibition zone of 1 mile limit outside the boundary line of the Home reservation was a measure full of good intentions, but, like other things well intended, this law has done no good but has wrought much evil. Under the former status barrooms more or less respectable were open near the Home, all of them subject to the observation of the police. The enactment of the mile limit closed the barrooms, but gave rise to dozens of secret dens where the vilest liquors are freely sold to the old soldiers, and which demoralizing dens, called "speak-easies," the police either can not or will not suppress. Here the old soldier is drugged, often robbed, flung into the gutter, and several deaths have occurred from the effects of the poisonous liquor sold to them in those brutalizing places. If Congress could be convinced and would annul the mile limit it would help the cause of good order and decency.

The farm has done well this year and the grounds have presented a more handsome appearance than for several years past.

The amusements in the way of theatrical performances will be kept up during the year to the extent of the limit of the appropriation for that purpose. When the new hall now under construction shall be finished I would recommend a more liberal allowance for amusements, as these performances always give the old men a happy evening.

The quarters, food, clothing, and discipline of the institution continue good. The methods of supplying the Home are excellent.

I have been ably assisted by the officers of the Home, including the medical officers, who manage a model hospital where the closing term of many an old veteran's life is made more tolerable by the comforts administered by careful hands.

Very respectfully,

D. S. STANLEY,
Brigadier General, Breret Major-General (Retired), Governor.

The BOARD OF COMMISSIONERS UNITED STATES SOLDIERS' HOME.

REPORT OF THE ATTENDING SURGEON OF THE SOLDIERS' HOME.

UNITED STATES SOLDIERS' HOME,
Washington, D. C., September 30, 1895.

SIR: I have the honor to submit the following report of the medical department of the Home for the past year, ended September 30, 1895:

	1895.	1894.	1893.	1892.
Patients remaining in hospital from last report.....	78	85	86	88
Patients admitted to hospital during the year.....	348	310	316	391
Total treated in hospital.....	426	395	402	479
Returned to the Home recovered, mostly acute cases.....	139	146	156	198
Returned to the Home improved mostly chronic cases.....	94	84	102	127
Returned to the Home unimproved, incurable.....	79	43	16	18
Sent to the United States Hospital for the Insane.....	3	3	5	5
Died in hospital.....	29	35	35	38
Dead when brought to hospital.....	1	6	3	7
Remaining in hospital at present date.....	81	78	85	86
Total.....	426	395	402	479

Ages and number of patients admitted.

	1895.	1894.	1893.	1892.
From 20 to 29 years.....	10	35	32	30
From 30 to 39 years.....	40	31	44	60
From 40 to 49 years.....	79	63	77	83
From 50 to 59 years.....	90	81	68	92
From 60 to 69 years.....	73	66	60	83
From 70 to 79 years.....	42	32	33	40
From 80 to 89 years.....	5	2	2	3
Age of the youngest..... years.....	23	22	22	23
Age of the oldest..... do.....	85	81	88	84
Average age of patients admitted..... do.....	52.85	51.75	50.22	51.36
Greatest number of patients at one time.....	86	86	88	88
Least number of patients at one time.....	62	64	72	65
Daily average of patients in hospital.....	76.34	76.45	81.42	78.10

Diseases for which patients were admitted to hospital.

Disease.	Pa- tients.	Disease.	Pa- tients.
alveolar.....	1	Hydrocele	2
sm	40	Indigestion	10
ia.....	1	Influenza	3
ions:		Insanity	6
legs, old.....	1	Iritis	1
ers, old.....	1	Kidney, abscess of.....	1
n:		Leg, old injury to.....	1
a.....	1	Liver, cirrhosis of.....	4
minate artery.....	1	Locomotor ataxy.....	4
ld injury to.....	1	Lumbago	2
ia cordis.....	1	Malarial fever:	
.....	8	Æstivo-autumnal.....	2
.....	2	Remittent	1
.....		Tertian	7
y of.....	1	Melancholia	3
ability of.....	3	Meniere's disease.....	1
l catarrh:		Meningitis:	
e.....	6	Cerebral	1
nic.....	4	Chronic.....	2
is, chronic.....	8	Morphinism	1
aralysis, chronic.....	1	Muscular atrophy, progressive.....	1
resulting in general debility.....	1	Nasal polypi.....	1
.....		Nephritis:	
nm.....	1	Acute	1
ach.....	2	Chronic.....	6
ue.....	1	Nervous debility.....	1
palpitation.....	1	Neuralgia	2
of leg.....	1	Ophthalmia, chronic.....	1
hemorrhage.....	2	Opium habit.....	1
softening.....	1	Osteitis deformans.....	1
poisoning.....	1	Paralysis, acute general.....	1
tulent.....	1	Paralysis agitans.....	1
ivitis.....	2	Pharyngitis, chronic.....	1
tion, acute.....	2	Pleurisy:	
ns:		Old	1
.....	1	Rheumatic, acute.....	3
.....	1	Pleuro-pneumonia	1
.....	1	Pneumonia:	
taneum.....	1	Acute.....	3
chronic.....	2	Chronic.....	8
a.....	1	Preputial adhesions.....	1
:		Rectum, stricture of.....	1
idus.....	4	Rheumatism:	
itus.....	1	Acute.....	2
:-		Chronic.....	23
e.....	6	Subacute	1
nic.....	5	Rhus toxicodendron poisoning.....	1
ternal, chronic eczema of.....	1	Sarcoma	3
.....	2	Sebaceous cyst.....	1
a.....	2	Senile debility.....	17
.....	8	Sprains:	
ma:		Ankle	5
.....	1	Finger.....	1
.....	1	Knee	2
as, facial.....	3	Staphyloma.....	1
ralysis.....	1	Stomatitis	1
a.....	1	Syphilis:	
s:		Primary	1
icle.....	1	Secondary	4
ur.....	1	Tertiary	4
la (Pott's), old.....	1	Tonsillitis, follicular.....	1
erus.....	2	Tuberculosis:	
.....	1	Larynx	1
.....	2	Lungs	32
it.....	1	Naso-pharyngeal	1
it, old.....	1	Testicle.....	2
n storm.....	1	Typhoid fever.....	3
lder, old inflammation and oblit-		Ulcers of leg.....	4
of.....	2	Urethra, stricture of.....	4
, chronic.....	4	Urothrits	2
a.....	7	Vertigo.....	2
e.....	2	Vision, impairment of.....	1
sease.....	11	Wounds:	
gia.....	9	Face, contused and lacerated.....	5
oids.....	6	Foot, old gunshot.....	1
s, chronic.....	2	Hand, contused.....	1
.....		Head and hands, contused.....	1
oral.....	1	Scalp, lacerated.....	2
inal.....	1	Shoulder, old gunshot.....	1
regulated.....	2	Slight troubles, undetermined.....	5
oster.....	1	A waiting diagnosis.....	3

This list exhibits only the diseases complained of by the patients at the time of admission to the hospital and does not include the numerous complications, operations, or secondary affections arising during the course of treatment. The principal troubles are tuberculosis, chronic rheumatism, heart disease, hernia, catarrh, epilepsy, dyspepsia, and constipation. Many of the men are affected with two or more of these diseases at the same time, and yet may be admitted to hospital for some minor complaint not connected with either.

The 2,124 cases treated at sick call are not included in the above list of diseases.

Necrology.

Name.	Age.	Nativity.	Company and regiment last served in.	Died.	Cause of death.
1894.					
Muller, Mark.....	86	France	Ordnance.....	Nov. 19	Abscess of kidney.
Botts, William.....	70	Germany	H, 7th Inf.....	Dec. 3	Apoplexy.
Feuerstein, Frank.....	55	.....do	F, 23d Inf.....	Dec. 10	General paralysis.
Engel, John.....	64	.....do	H, 8th Inf.....	Dec. 19	Abscess of kidney.
1895.					
Levy, Mayer.....	56	.....do	F, 5th Inf.....	Jan. 1	Aneurism of aorta.
Deere, William Y.....	81	United States.....	Hosp. steward	Jan. 5	Cancer of stomach.
Welter, Everhard.....	76	Germany	A, 1st N. Y. Vols.	Jan. 13	Tubercular peritonitis.
Whitney, Patrick.....	48	Ireland	H, 18th Inf.....	Jan. 27	Chronic pneumonia.
Ott, Charles.....	55	Germany	B, 4th Inf.....	Jan. 29	Cancer of stomach and consumption.
Hickey, William T.....	44	United States.....	A, 3d Inf.....	Feb. 12	Cancer of liver and consumption.
Glennin, Thomas *.....	43	.....do	L, 5th Art.....	Feb. 16	Found frozen in snow.
Hanratty, Patrick.....	61	Ireland	G, 8th Cav.....	Mar. 6	Consumption.
Colelaser, F. L.....	79	United States.....	Hosp. steward	Mar. 11	Bright's disease.
Cook, John.....	48	.....do	Ordnance.....	Mar. 13	Heart disease.
O'Keefe, Arthur.....	57	Ireland	Gen. mtd. ser.	Mar. 18	Consumption.
Reilly, Patrick.....	80	.....do	E, 4th Art.....	Mar. 22	Apoplexy.
White, Patrick.....	66	.....do	C, 8th Inf.....	Mar. 30	Cancer of stomach.
Andrews, Chester.....	70	United States.....	B, 2d Art.....	Apr. 9	Pneumonia.
Gear, John.....	28	Ireland	G, 4th Art.....	Apr. 12	Consumption.
Risch, William.....	58	Germany	A, 2d Cav.....	May 4	Do.
Williams, David.....	67	Wales	Ordnance.....	May 10	Heart disease.
Leason, Frederick.....	58	Denmark	H, 4th Art.....	May 28	Consumption.
Newbyre, William.....	60	Germany	Band, 2d Art.....	June 17	Aneurism of aorta and pneumonia.
Walker, Edward.....	51	United States.....	H, 5th Inf., retired.	June 26	Inflammation of kidneys and brain.
Powell, Michael.....	65	Ireland	H, 2d Art., retired.	July 15	Inflammation of brain.
Donovan, Cornelius.....	55	.....do	Ordnance.....	July 20	Heart disease.
Harwood, James D.....	70	United States.....	E, 1st Cav.....	July 27	Do.
McKeon, Michael.....	75	Ireland	F, 1st Inf.....	July 31	Consumption.
Ryan, Edward.....	68	.....do	I, 14th Inf.....	Aug. 9	Senile dementia.
Drew, William Geo.....	66	.....do	Ordnance.....	Aug. 30	Jaundice.

Dead when brought to hospital.

The daily average of inmates present at the Home was: For 1891, 718; for 1892, 745; for 1893, 751; for 1894, 734; for 1895, 676.

Proportion of deaths to 100 inmates per annum.

Year.	Percent.	Year.	Percent.	Year.	Percent.
1895	4.29	1893	4.66	1891	5.15
1894	4.77	1892	5.10	1890	5.30

Number of prescriptions compounded during the year	7,369
Applications for treatment at sick call.....	2,124
Number of out-patients treated connected with the Home.....	325

SOLDIERS' HOME.

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Annual statement of expenses from treasurer's records.

	1895.	1894.	1893.	1892.
Age number of men, including attendants.....	108	108	112.42	107.66
Attendance.....	\$7,837.93	\$8,387.95	\$9,187.47	\$8,763.33
Attendance, inmates Government Insane Asylum.....	3,279.28	3,740.82	2,985.00	4,878.58
Attendance of medicines.....	1,166.41	940.27	1,303.94	1,187.19
Attendance of infants.....	6,438.29	6,306.36	6,330.62	6,648.46
Attendance of infants.....	441.11	524.41	350.10	418.78
Attendance of infants.....	738.97	1,646.28	1,894.89	1,496.07
Attendance of infants.....	969.00	1,012.00	923.13	728.00
Attendance of infants.....	218.24	283.52	252.81	261.60
Attendance of infants.....	48.60	94.80	112.11	70.69
Attendance of infants.....	39.75	82.00	29.51	31.99
Attendance of infants.....	9.00	7.00	4.75	4.00
Attendance of infants.....	259.02	378.51	334.96	334.77
Attendance of infants.....	151.13	622.50	263.15	421.00
Attendance of infants.....	520.80	571.92	1,915.54	2,685.84
Attendance of infants.....	204.67	273.05	201.24	282.08
Attendance of infants.....	132.55	63.73	133.81	71.10
Attendance of infants.....	103.55	129.94	43.12	18.12
Attendance of infants.....	61.00	103.90	414.43	527.73
Attendance of infants.....	75.98	38.75	39.71	80.32
Total.....	22,797.28	25,278.30	26,210.28	29,837.84
Per man per day.....cents..	57.83	66.10	63.87	75.97

My statement of expenses of hospital from October 1, 1894, to September 30, 1895, furnished by the treasurer.

	Amount.		Amount.
October, 1894.		November, 1894—Continued.	
Attendance.....	\$632.13	Stationery and printing	\$5.25
Attendance.....	73.00	Spectacles	5.00
Attendance.....	38.01	Pay roll, extra duty.....	400.72
Attendance.....	100.00	Total.....	1,513.95
Attendance.....	20.00	December, 1894.	
Attendance.....	21.63	Subsistence	\$625.25
Attendance.....	15.23	Gas.....	121.00
Attendance.....	3.00	Ice.....	19.12
Attendance.....	35.00	Pay, clinical assistant	100.00
Attendance.....	542.71	Pay, ambulance driver	20.00
Attendance.....	125.13	Extra washing	21.34
Attendance.....	10.18	Forage and hay.....	15.23
Attendance.....	3.00	Horse shoeing.....	3.00
Attendance.....	14.91	Coal.....	49.22
Attendance.....	60	Tapeline, cup hooks	1.85
Attendance.....	30	Chopping block .....	.80
Attendance.....	72.08	Galvanized pipe	1.10
Attendance.....	481.50	Repairs to ambulance.....	1.97
Attendance.....	6.22	Repairs to stove and range	5.80
Attendance.....	3.00	Stove polish, brushes, lvs, etc.....	6.03
Attendance.....	2.00	Tube cleaners for boilers	1.20
Attendance.....	419.00	One walnut bookcase	37.00
Total.....	2,624.63	Two clocks	22.00
November, 1894		Repairs to clock	1.50
Attendance.....	762.11	Medical and hospital supplies	40.22
Attendance.....	103.25	Medical books	1.40
Attendance.....	29.42	Pay roll, extra duty.....	407.80
Attendance.....	100.00	Total.....	1,508.82
Attendance.....	20.00	January, 1895	
Attendance.....	24.00	Subsistence	684.71
Attendance.....	15.23	Gas.....	151.50
Attendance.....	3.00	Ice.....	19.77
Attendance.....	2.99	Pay, clinical assistant	100.00
Attendance.....	6.75	Pay, ambulance driver	20.00
Attendance.....	8.81	Extra washing	25.45
Attendance.....	6.82	Forage and hay.....	15.23
Attendance.....	1.15	Horse shoeing.....	3.00
Attendance.....	1.80	Material, concreting floor.....	9.90
Attendance.....	.35		
Attendance.....	50		
Attendance.....	5.00		

Monthly statement of expenses of hospital from October 1, 1894, to September 30, 1895,
furnished by the treasurer—Continued.

	Amount.		Amount.
January, 1895—Continued.		April, 1895—Continued.	
Picture linen tape etc.....	\$10.22	Spectacles.....	\$10.50
Mass and kitchen utensils.....	26.08	Coffin materials.....	20.00
Duck for stretch.....	.60	Pay roll, extra duty.....	418.70
Articles for police purposes.....	8.17	Total.....	1,719.93
Pipe, cork and lampblack.....	2.96	May, 1895.	
Medical and hospital supplies.....	40.81	Subsistence.....	506.15
Medical books.....	22.00	Gas, April and May.....	122.80
Instruments.....	40.85	Ice.....	41.77
Printing and stationery.....	9.20	Pay, clinical assistant.....	100.00
Coffin materials.....	40.58	Pay, ambulance driver.....	20.00
Government Asylum for Insane.....	820.71	Extra washing.....	20.28
Pay roll, extra duty.....	407.20	Forage and hay.....	15.85
Total.....	2,464.78	Horseshoeing.....	3.00
February, 1895.		Stamps, scales, lamps, etc.....	7.95
Subsistence.....	506.00	Wire cloth and tin for roofs.....	13.25
Gas.....	129.75	Tin for gutters, spouts, etc.....	21.40
Ice.....	10.38	Articles for police purposes.....	8.71
Pay, clinical assistant.....	100.00	Freight.....	.83
Pay, ambulance driver.....	20.00	Medical and hospital supplies.....	18.47
Extra washing.....	20.40	Medical books.....	7.30
Forage and hay.....	15.23	Instruments.....	9.00
Horseshoeing.....	3.00	Printing and stationery.....	3.73
Matches pearlline soap, etc.....	6.34	Pay roll, extra duty.....	419.00
One pane ribbed glass.....	.80	Total.....	1,628.08
Freight.....	.90	June, 1895.	
Repairs to elevator.....	26.47	Subsistence.....	600.63
Medical and hospital supplies.....	30.19	Gas.....	35.75
Medical books.....	16.00	Ice.....	61.71
Instruments.....	32.08	Pay, clinical assistant.....	100.00
Coffin materials.....	38.78	Pay, ambulance driver.....	20.00
Pay roll, extra duty.....	414.47	Extra washing.....	21.36
Total.....	1,458.83	Forage and hay.....	18.85
March, 1895.		Horseshoeing.....	3.00
Subsistence.....	623.19	Coal.....	60.23
Gas.....	114.25	Articles for police purposes.....	8.00
Ice.....	13.84	Materials for rollers, etc.....	2.80
Pay, clinical assistant.....	100.00	Six 4 inch gutter strainers.....	1.50
Pay, ambulance driver.....	20.00	Hinges and soulder.....	.90
Extra washing.....	21.00	Materials repairs to plumbing.....	2.30
Forage and hay.....	15.23	Tableware, etc.....	5.34
Horseshoeing.....	3.00	Medical and hospital supplies.....	7.48
Coal.....	58.78	Medical books.....	6.00
Galvanized pipe.....	5.51	Instruments.....	2.50
Repairs to mattresses.....	32.32	Government Asylum for Insane.....	867.00
Flue sweeps.....	4.50	Pay roll, extra duty.....	419.00
Glass jars.....	12.38	Total.....	2,517.50
Articles for police, etc.....	7.24	July, 1895.	
Grates for range.....	2.50	Subsistence.....	604.30
Washers for bibb cocks.....	2.00	Gas.....	32.00
62 gallon kerosene.....	5.20	Ice.....	64.52
Two stumps.....	1.25	Pay, clinical assistant.....	100.00
Printing and stationery.....	7.80	Pay, ambulance driver.....	20.00
Government Asylum for Insane.....	836.43	Extra washing.....	4.24
Pay roll, extra duty.....	414.40	Forage and hay.....	18.85
Total.....	2,301.50	Horseshoeing.....	3.00
April, 1895.		Bricks and grate for range.....	2.90
Subsistence.....	623.47	Brass hinges and screws.....	.45
Gas.....	27.21	Articles for police purposes.....	87.02
Pay, clinical assistant.....	100.00	Tableware and kitchen utensils.....	28.06
Pay, ambulance driver.....	20.00	Slate and two books tissue.....	.35
Extra washing.....	20.46	Express charges.....	1.40
Forage and hay.....	18.64	Sand for concreting floor.....	3.00
Horseshoeing.....	3.00	Medical and hospital supplies.....	167.65
Articles for police purposes.....	6.45	Medical books.....	6.00
Kitchen utensils, tableware, etc.....	41.43	Instruments.....	26.00
Freight.....	.75	Spectacles.....	9.75
Medical and hospital supplies.....	359.77	Pay roll, extra duty.....	417.20
Medical books.....	11.50	Total.....	1,601.25
Instruments.....	19.50		
Printing and stationery.....	7.65		

Monthly statement of expenses of hospital from October 1, 1894, to September 30, 1895, furnished by the treasurer—Continued.

	Amount.		Amount.
<i>August, 1895.</i>		<i>September, 1895.</i>	
Subsistence	\$708.64	Subsistence	\$701.00
Gas	24.25	Gas	41.75
Ice	64.18	Ice	51.24
Pay, clinical assistant	100.00	Pay, clinical assistant	100.00
Pay, ambulance driver	20.00	Pay, ambulance driver	20.00
Extra washing	6.26	Extra washing	4.84
Forage and hay	18.95	Forage and hay	18.95
Horseshoeing	3.00	Horseshoeing	3.00
Coal	14.04	Ribbon, picture hooks, and wire	1.85
Pillowcases, books, press, etc	31.49	Two gas stoves	2.00
Framing six pictures	8.50	Brushes, sash cord, and hinges	4.33
Articles for police purposes	12.35	Plumbing material for repairs	3.11
Barrel kerosene oil	5.51	Repairs to kitchen range	20.00
Freight charges and brushes	1.51	Articles for police purposes	9.00
Medical and hospital supplies	22.51	Express charges .....	.45
Medical books	20.45	Medical and hospital supplies	35.67
Trusses	9.00	Medical books	5.70
Instruments	8.00	Spectacles	3.00
Printing and stationery	12.85	Government Asylum for Insane	854.28
Spectacles	7.50	Pay roll, extra duty	426.80
Coffin materials	80.00		
Pay roll, extra duty	422.00	Total	2,306.97
Total	1,610.99		

The sanitary condition of the Home and grounds has been excellent throughout the year. There has been no prevalent or epidemic disease among the inmates. The water supply and drainage are satisfactory.

Very respectfully, your obedient servant,

W. H. FORWOOD,
Surgeon, United States Army, in charge.

The GOVERNOR OF THE HOME.

REPORT OF THE SECRETARY AND TREASURER OF THE SOLDIERS' HOME.

TREASURER'S OFFICE, UNITED STATES SOLDIERS' HOME,
Washington, D. C., October 10, 1895.

GENERAL: I have the honor to herewith transmit my annual reports for the year ended September 30, 1895, as follows:

Statement of receipts and expenditures of the Home fund, with recapitulation and comparative statement for the previous year.

Statement of the permanent fund and interest account as shown by the warrant division, Treasury Department.

Statement of treasurer's account with the inmate pensioners.

Statement of pensioners in the Home, rates of pensions, etc.

Statement in regard to members receiving outdoor relief, rates of relief, pensions, etc.

Statements of receipts and expenditures on account of the farm and garden.

There being no dairy herd, there is no dairy report.

Very respectfully,

RICHD. C. PARKER,
Secretary and Treasurer.

Gen. D. S. STANLEY,
Governor of the Home.

Bedding for inmates, bedsteads, blankets, upholsterer's materials, etc.....	360.14	24.63	24.79	19.12	6.55	29.06	13.96	17.21	520.36
Farm, garden, and dairy utensils, seeds, guano, manure, cultivation of garden, ornamentation of grounds, and pay of farm, garden, dairy, and other employees.....	1,459.68	1,376.83	1,267.10	1,214.50	1,427.30	2,017.80	1,422.00	1,315.38	17,229.53
Mess and kitchen utensils, and all other articles except bedding for the Home.....	65.67	401.45	46.09	28.20	117.25	58.42	94.71	85.61	1,346.00
Material for general repairs to buildings, repair of roads and fences, purchase and repairs to harness, vehicles, and purchase of mechanical tools.....	156.95	223.27	238.72	58.62	122.06	247.86	116.74	129.95	1,718.26
Forage and medicines for Home animals—articles used in stables.....	118.31	105.78	108.49	109.26	106.74	117.76	95.59	102.68	1,313.20
Expenses of the library, governor's and treasurer's offices, postage and post-office box rent, stationery, etc., for Commissioners' office, freight, telegrams, and amusements.....	68.58	46.38	507.86	110.00	269.07	74.86	28.05	36.55	1,548.66
Incidental expenses, rental of telephone, hack hire, advertising, traveling expenses, professional services, and expenses of the Home chapel.....	10.87	6.00	60.00	40.00	84.98	60.00	25.57	43.50	602.47
Religious services.....	190.00	190.00	190.00	190.00	190.00	130.00	130.00	130.00	2,040.00
Laundry work for the Home.....	166.10	175.22	181.02	182.81	192.02	178.08	117.00	120.62	1,956.78
Compensation and monthly allowances to inmate nonpensioners on duty at the Home, except compensation to inmates on duty at Barnes Hospital. Commutation to members of the Home residing outside.....	1,772.38	1,750.02	1,663.26	1,685.35	1,702.48	1,673.21	1,671.34	1,648.82	20,322.48
Gas for the Home, including rental of Amicks improved gas regulators.....	456.00	348.27	5,962.00	346.00	6,063.59	5,846.67	455.00	362.00	26,677.00
Board and medical treatment of members of the Home in Government Hospital for the Insane.....	238.75	303.50	325.50	313.00	298.50	154.75	159.00	141.25	2,996.25
Funeral expenses of members of the Home residing outside.....	25.00	25.00	25.00	48.55	25.00	25.00	25.00	50.00	323.55
Permanent improvements, new fences, wells, repairs to bridges, lamp-posts, gas lamps, paving, sewerage, pointing up stonework on Scott and Sherman buildings, remodeling brick-work for boilers in boiler house.....		400.00				445.07	553.94	289.47	1,965.36
Total.....	20,409.34	11,522.80	17,401.85	9,212.41	16,716.07	16,380.17	9,714.49	9,287.16	161,039.94

RECAPITULATION.

RECEIPTS.

Balance on hand September 30, 1894	\$10,440.15
From the United States Treasurer upon resolutions of the Board of Commissioners, approved by the Secretary of War.....	72,000.00
From interest on the permanent fund	78,602.05
From effects of deceased inmates subject to the demand of legal heirs	813.19
From miscellaneous sources	4,865.29
Total	106,720.68

EXPENDITURES.

Repairs to officers' quarters.....	\$252.96
Compensation of the governor, deputy governor, treasurer, and clerk to the Board of Commissioners	4,184.88
Transportation furnished to discharged soldiers en route to the Home and refunded to the Quartermaster's Department.....	727.58
Fuel for the Home.....	7,996.23
Expenses of the hospital for medicines, medical stores, spectacles, false teeth, materials for coffins, etc.....	1,708.39
Expenses of the hospital for mess and kitchen purposes and all running expenses, including compensation to inmates and pay of civilian employees.....	15,448.59
Refunded to claimants as heirs of deceased soldiers.....	808.67
Refunded to claimants as heirs of deceased inmates.....	573.45
Clothing for inmates.....	10,884.56
Subsistence stores and ice, including special diet and stimulants for the sick.....	34,708.86
Expenses of the Home bakery.....	7.65
Bedding for inmates, bedsteads, blankets, upholstery materials, etc.....	520.36
Farm, garden, and dairy utensils, seeds, guano, manure, cultivation of garden, ornamentation of grounds, pay of farm, garden, dairy and other employees.....	17,229.53
Mess and kitchen utensils and all other articles except bedding for the Home.....	1,346.00
Materials for general repairs to buildings, repair of road and fences, purchase and repairs to harness, vehicles, and purchase of mechanical tools.....	1,718.36
Forage and medicines for Home animals, articles used in stables.....	1,313.29
Expenses of the library, governor's and treasurer's offices, postage, post-office box rent, stationery, etc., for Commissioners' office, freight, telegrams, and amusements.....	1,548.66
Incidental expenses, rent of telephone, hack hire, advertising, traveling expenses, professional services, and expenses Home chapel.....	602.47
Religious services.....	2,040.40
Laundry work.....	1,956.78
Compensation and monthly allowance to inmates, nonpensioners on duty at the Home, except compensation to inmates on duty at Barnes' Hospital.....	20,322.48
Compensation to inmates of the Home residing outside.....	26,677.00
Gas for the Home, including rental of Amick's gas regulators.....	2,906.25
Board and medical treatment of members of the Home in Government Hospital for the Insane.....	3,379.28
Funeral expenses of members of the Home residing outside.....	328.55
Permanent improvements, new fences, wells, repairs to bridges, lamp-posts, gas lamps, paving, sewerage, etc., pointing up walls on Scott and Sherman buildings, remodeling brickwork for boilers, boiler house.....	1,965.36
Balance on hand September 30, 1895.....	5,689.74
Total	166,720.68

Comparative statement of money received and disbursed on account of the United States Soldiers' Home, District of Columbia, for two years—October 1, 1893, to September 30, 1895.

Received October 1, 1893 to September 30, 1894.....	\$200,381.82
Expended October 1, 1893, to September 30, 1894.....	189,941.67
Balance on hand September 30, 1894.....	10,440.15
Received October 1, 1894, to September 30, 1895.....	106,720.68
Expended October 1, 1894, to September 30, 1895.....	161,039.94
Balance on hand September 30, 1895.....	5,689.74
Expenditures during the year ended September 30, 1894, for new buildings and permanent improvements.....	\$12,709.21
Running expenses for the year.....	\$177,232.46
Expenditures during the year ended September 30, 1895, for new buildings and permanent improvements	\$1,965.36
Running expenses for the year.....	\$159,074.58
Average cost per man per year.....	\$188.73
Average cost per man per month.....	\$15.56
Average number of inmates for the year ended September 30, 1895.....	679
Average cost of ration per man per month, including vegetables and fruit raised on Home grounds.....	\$5.24
Average cost of ration per day.....	\$0.173

Statement of the Soldiers'-Home permanent-fund account from October 1, 1894, to September 30, 1895.

Date.		Partial amounts.	Dr.	Cr.
1894.				
Oct. 1	Balance.....			\$2, 574, 036. 79
Nov. 9	Amount of deposits.....	\$44, 708. 35		
Dec. 27	do	28, 923. 43		
1895.				
Feb. 26	do	18, 868. 35		
Mar. 28	do	21, 960. 41		
Apr. 27	do	15, 557. 51		
May 28	do	12, 290. 87		
June 27	do	24, 028. 82		
Sept. 28	do	21, 668. 30		
1894.				188, 006. 04
Nov. 13	Less amount paid from permanent fund.....	6, 000. 00		
Dec. 13	do	16, 000. 00		
1895.				
Feb. 21	do	5, 000. 00		
Mar. 13	do	15, 000. 00		
June 19	do	18, 000. 00		
Sept. 18	do	12, 000. 00		
			\$72, 000. 00	
Sept. 30	Balance.....		2, 690, 042. 83	
	Total		2, 762, 042. 83	2, 762, 042. 83

Statement of the Soldiers' Home interest account from October 1, 1894, to September 30, 1895.

	Partial amounts.	Dr.	Cr.
Balance, Oct. 1, 1894.....			\$19, 315. 01
Interest on balance, \$2,574,036.79 from Oct. 1 to Dec. 31, 1894.....	\$19, 459. 71		
Interest on deposit, Nov. 9 to Dec. 31, 1894.....	194. 70		
Interest on deposit, Dec. 27 to Dec. 31, 1894.....	11. 85		
			19, 666. 26
Interest on balance, \$2,625,668.57, from Jan. 1 to Mar. 31, 1895....	19, 422. 73		
Interest on deposit, Feb. 26 to Mar. 31, 1895.....	52. 72		
Interest on deposit, Mar. 28 to Mar. 31, 1895.....	7. 22		
			19, 482. 67
Interest on balance, \$2,646,497.33, from Apr. 1 to June 30, 1895.....	19, 848. 73		
Interest on deposit, Apr. 27 to June 30, 1895.....	83. 11		
Interest on deposit, May 28 to June 30, 1895.....	34. 34		
Interest on deposit, June 27 to June 30, 1895.....	7. 90		
			19, 974. 08
Interest on balance, \$2,680,374.53, July 1 to Sept. 30, 1895.....	20, 102. 81		
Interest on deposit, Sept. 28 to Sept. 30, 1895.....	5. 34		
			20, 108. 15
Less interest on principal paid:			
Fourth quarter of 1894.....	49. 15		
First quarter of 1895.....	39. 45		
Second quarter of 1895.....	17. 75		
Third quarter of 1895.....	12. 82		
		\$119. 17	
Less interest paid:			
Fourth quarter of 1894.....	19, 315. 61		
First quarter of 1895.....	19, 617. 11		
Second quarter of 1895.....	19, 443. 22		
Third quarter of 1895.....	19, 956. 33		
		78, 332. 27	
Balance		20, 095. 33	
Total.....		98, 546. 77	98, 546. 77

The treasurer of the United States Soldiers' Home in account with the inmate pensioners for moneys received under section 4, act approved March 3, 1883, and deposited with the Treasurer of the United States.

MONEYS RECEIVED.		
1894.		
Oct.	1 Balance on hand.....	\$46,613.36
	31 S. L. Willson's checks.....	943.27
Nov.	30 S. L. Willson's checks.....	322.23
Dec.	31 S. L. Willson's checks.....	19,505.95
1895.		
Jan.	31 S. L. Willson's checks.....	1,594.31
Feb.	28 S. L. Willson's checks.....	293.78
Mar.	31 S. L. Willson's checks.....	19,920.08
Apr.	30 S. L. Willson's checks.....	1,008.47
May	31 S. L. Willson's checks.....	581.77
June	30 S. L. Willson's checks.....	19,056.30
July	31 S. L. Willson's checks.....	1,222.37
Aug.	31 S. L. Willson's checks.....	613.37
Sept.	30 S. L. Willson's checks.....	18,127.21
Total.....		129,802.56

MONEYS DISBURSED.		
1894.		
Oct.	10 Amount paid to Thomas Macken, pensioner.....	93.60
	30 Amount paid the estate of Geo. Rowsell, deceased.....	40.00
	31 Pension pay roll for October, 1894.....	2,073.54
Nov.	22 Amount paid the estate of John Rosenberger deceased.....	396.00
	30 Pension pay roll for November, 1894.....	1,023.00
Dec.	20 Amount paid Owen Flood, pensioner.....	50.00
	21 Amount paid the estate of John Farrelly, deceased.....	208.00
	27 Amount paid to Julius Steinmayer, pensioner.....	51.00
	31 Pension pay roll for December, 1894.....	14,035.17
1895.		
Jan.	31 Pension pay roll for January, 1895.....	2,144.62
Feb.	26 Amount paid Frederick Lindner, pensioner.....	15.00
	28 Pension pay roll for February 1895.....	728.57
Mar.	30 Pension pay roll for March, 1895.....	18,057.25
Apr.	30 Pension pay roll for April, 1895.....	1,835.37
May	8 Amount paid the estate of James Johnson, deceased.....	38.00
	31 Amount paid the estate of D. L. Williams, deceased.....	95.00
	31 Pension pay roll for May, 1895.....	2,112.26
June	17 Amount paid Bernard Duffy, pensioner.....	62.00
	29 Pension pay roll for June, 1895.....	17,679.24
July	15 Amount paid the estate of John Gear, deceased.....	14.00
	31 Pension pay roll for July, 1895.....	1,898.89
Aug.	15 Amount paid to Thomas Sherborne, pensioner.....	83.00
	22 Amount paid the estate of Luke Cherry, deceased.....	30.00
	31 Amount paid Otto Hoppe, pensioner.....	18.00
	31 Pension pay roll for August, 1895.....	2,586.23
Sept.	30 Pension pay roll for September, 1895.....	15,289.87
	30 Pension money of deceased pensioners transferred to the Home fund.....	2,439.00
	30 Balance in United States Treasury.....	46,026.04
Total.....		129,802.56

Annual report of the number of pensioners in the United States Soldiers' Home, rates of pensions, etc., September 30, 1895.

Pensioners drawing, per month—		Pensioners drawing, per month—	
\$6	135	\$18	2
8	136	20	5
10	47	22	2
12	283	24	14
12.50	1	25	1
14	38	30	13
15	2		
16	28	Total.....	767
17	60		
Pensioners present in the Home:			
Pensioners whose money is drawn by the treasurer.....		510	
Pensioners who have assigned their certificates.....		11	
		—	521
Pensioners absent:			
On outdoor relief		340	
On suspension		6	
		—	346
Total number of pensioners September 30, 1895		767	
Total number of pensioners September 30, 1894		815	

Alterations since last report (September 30, 1894):	
New certificates received for inmates.....	75
Admitted and readmitted	171
	<u>246</u>
Loss by discharge	254
Loss by death	40
	<u>294</u>
Net loss during the year.....	48

Description of certificates:	
Army invalids	451
Army, act of June 27, 1890	142
Mexican war.....	167
Navy, original	3
Navy, act of June 27, 1890.....	4
	<u>767</u>

NOTE.—There are five pensioners in the Government Hospital for the Insane whose money is drawn by the treasurer.

Farm account of United States Soldiers' Home, October 1, 1894, to September 30, 1895, consolidated.

DR.		Cr.—Continued.	
To labor, forage, fuel, fertilizers, imple- ments, seeds, and repairs.....		By 259 bushels parsnips.....	
	\$4, 926. 83		\$146. 50
			1,182½ bushels potatoes.....
			596. 23
			33 bushels radishes.....
			10. 95
			5,155 bunches rhubarb.....
			81. 76
			34 bushels salsify.....
			25. 50
			103 bushels spinach.....
			20. 60
			695 pounds spinach.....
			6. 95
			5,158 pounds squash.....
			51. 58
			46½ bushels string beans.....
			19. 82
			44½ bushels tomatoes.....
			139. 29
			571½ bushels turnips.....
			111. 76
			235 tons hay.....
			2, 157. 00
			Balance to debit of farm.....
			638. 75
		Total	4, 926. 83

Estimate of vegetables in the ground on United States Soldiers' Home farm, September 30, 1895.

300 bushels beets, at 30 cents	\$90. 00	75 bushels salsify, at 75 cents	\$56. 25
30 bushels carrots, at 75 cents.....	22. 50	1,500 pounds winter squash, at 1 cent	15. 00
1,500 pounds horse-radish, at 4 cents.....	60. 00		
200 bushels parsnips, at 50 cents.....	100. 00	Total	393. 75
100 bushels potatoes, at 50 cents.....	50. 00		

Garden account of United States Soldiers' Home, from October 1, 1894, to September 30, 1895, consolidated.

DR.			
To labor, fertilizers, seeds, tools, fuel, and implements.....			
	\$3, 184. 14		
		Cr.	
		By 200 quarts cherries.....	
		450 pounds grapes.....	
		96 bushels pears.....	
		80 cords wood	
		23,700 plants, trees, and shrubs raised in garden and greenhouse.....	
		Balance to debit of garden expended in improvement of grounds.....	
		Total	

NOTE.—This department has the care of the ornamentation of the grounds, lawns, flowers, shrubs, trees, and fruit.

Annual report of members of the United States Soldiers' Home receiving outdoor relief September 30, 1895, rates of relief, pensions, etc.

Number receiving outdoor relief per month of—		Receiving pensions per month of—Continued.	
\$6.....	257	\$16.....	5
4.....	2	17.....	14
2.....	53	20.....	2
		22.....	1
Total.....	312	24.....	4
Number receiving outdoor relief September		25.....	1
30, 1894.....	323	30.....	3
Net loss during the year.....	11	Total nonpensioners.....	73
		Total pensioners.....	240
Nonpensioners receiving outdoor relief.....	72		
Receiving pensions per month of -		Total.....	312
\$6.....	60		
8.....	47	Mexican war survivors.....	142
10.....	7	Men who have served 25 years or over.....	45
12.....	95	Nonpensioners of latter number.....	4
14.....	1		

Eighteen members of the Home on outdoor relief have died since date of last report. Twenty-seven members were dropped from outdoor relief after June 30, 1895, in compliance with resolutions of the Board of Commissioners dated June 19, 1891, and July 20, 1895.

RICHD. C. PARKER,
Brerel Major, United States Army, Secretary and Treasurer.

REPORT OF THE INSPECTION OF THE SOLDIERS' HOME.

WAR DEPARTMENT, INSPECTOR-GENERAL'S OFFICE,
Washington, D. C., November 26, 1895.

SIR: I have the honor to submit a report of the inspection of the Soldiers' Home, District of Columbia, begun October 14, 1895, with the assistance of Mr. W. T. Kent, the accountant of the Department, in the financial affairs.

The usual exhibits giving detailed information on various matters are appended hereto.

The administration of the Home has remained under the efficient charge of Brig. Gen. David S. Stanley, who is ably assisted by Capt. D. A. Irwin, deputy governor, and Maj. Rich. C. Parker, secretary and treasurer.

The establishment as a whole presented a commendable appearance; the grounds and roads were in their proverbially perfect order, and the buildings in admirable police, giving evidence of the care with which the attractiveness of the reservation is maintained. The walks have been considerably extended in recent years, and since the street cars have reached the confines of the Home there will doubtless be a greater number of pedestrians than formerly, and the roadways should be freed from their presence by excellent and well-located walks. There were expended during the year \$3,184.14 for care and ornamentation of the grounds.

It is submitted that the plants and conservatory should be so placed as to be an object of interest to the inmates in winter as well as summer, and a building like that at the lake entrance of the volunteer Home at Dayton is recommended for this purpose.

BUILDINGS.

The barracks and other buildings seemed generally in excellent condition; the Scott and Sherman buildings were pointed up during the year, but not before unsightly stains had appeared upon the bedroom walls of this imposing structure, which seems to have settled and cracked in places; the boilers at the engine house were reset, and a number of repairs and improvements were made at other buildings and at the engine house at a cost of \$1,965.36. The Sheridan Building, which was first occupied in 1885, should be pointed up about the doors, window casings, and baseboards and painted throughout. It has not been painted since occupation, except the amusement hall in the basement. It is understood that the painting has been ordered for some time and will be begun at an early date. It would improve appearances if the three hundred or more lockers in the Sherman and Scott buildings and annex were painted to correspond with the stands, as has been done in the Sheridan and King buildings; or the upright three-shelved

locker being introduced at the Dayton Home, or the still taller ones at the new post of Ethan Allen would be a still greater improvement. Otherwise the lockers, as also beds and bedding, were in good condition; indeed there are few things about the Home which have shown greater improvement during the past few years. There were one hundred and twenty-six vacant beds reported in the barracks—an increase of seventy-three over the number at the previous inspection, and there was a corresponding increase in the floor and cubic air space per man. The floor space ranged from 64 to 506 square feet, and averaged 148 per man; and the air space from 1,239 to 2,618 cubic feet, and averaged 1,635 per man. This is over twice the averages found at the volunteer Homes, and equals the requirements for hospitals. The bareness of the walls and floors attracts attention.

It is submitted that in any future purchases of iron bunks the hospital size entirely of metal be adopted for all purposes. The comfort and freedom from vermin more than compensates for the small additional cost for an article which lasts so long and is so essential to the comfort of feeble old soldiers, some of whom are blind. Ventilation, heat, and lighting appear to be satisfactory, though it would seem to be in the line of progress and economy were electricity introduced, as is done at the volunteer Homes, and other comforts found at them might also be beneficially introduced, such as porches or corridors, inclosed in glass during winter, and passenger elevators in buildings over two stories high, the water being pumped back for use over again. The capacity of the five barrack buildings is 710, and there seems to be vacant space unutilized that might be more beneficially employed, such as the old dining room. A good many broken window panes were noted in the outbuildings. The imposing size of these dormitory buildings (like the central one at the Milwaukee Home) and the comparatively small size of the rooms are noticeable features. There are additional expenses incurred by constructing smaller buildings with such considerable floor space.

MEMBERS.

The average number present during the twelve months ending September 30, 1895, was 678.25. This is the lowest average reported for the past four years, and is 55.50 below the average for 1894; 72.75 below that of 1893, and 66.75 below that of 1892. The highest number present during the year was 727, on February 15, 1895, and the minimum 612, on July 5, 1895, being 55 and 46 less, respectively, than the figures reported for 1894. The average number absent during the year was 380, which is the same as reported for the preceding year. The age of the members present on September 30, 1895, averaged 54.17 years, and of those admitted since that date 45.6 years. This is slightly less than reported at the previous inspection. There were 1,755 old soldiers cared for, including 263 transients, against 1,850 the preceding year. The actual number present and absent on September 30, 1895, was 1,002, or 63 less than at the corresponding time of the previous year; so it seems there has been a considerable loss in membership.

DISCIPLINE.

The proportionate number of delinquencies committed during the year is but a fraction of a per cent higher than for the preceding year, though there is a falling off in the number of habitual offenders. Exclusive of the 263 transients, there were 1,492 old soldiers cared for during the year, and only 282 of this number, or 18.9 per cent, were

tried for offenses against the rules, and 81.1 were not tried. There were 184 members tried but once, 63 twice, and 35 more than twice. During the previous year 167 were tried but once, 74 twice, and 47 more than twice. There were two desertions during the year. A large number of trials (153) were for absence without leave, though the pass privileges are liberal, and passes are granted whenever wanted, provided the applicant is not undergoing punishment.

Discipline is enforced in the buildings by first sergeants, floor sergeants, and the Home police, and on the grounds by the provost sergeant, the watchmen and the Home police, of whom there are fourteen. The guard-house was in good condition and without prisoners at date of inspection. The lack of uniformity in the clothing as worn is one of the indications of the absence of company organization and frequent formations, and might perhaps excite remark from military visitors.

AMUSEMENTS.

The lack of facilities for amusements referred to in my previous report of inspection is now being remedied, and the construction of an amusement hall at a cost of \$64,000 has been begun. The price and quality of the newer structures here can hardly be compared with those elsewhere, but an amusement or assembly building which promises to meet the requirements has just been designed at the Dayton Home, to cost about \$15,000 or \$20,000, though they already have a theater; and the one erected at Marion cost about \$10,000. Such additional facilities should be a cause of still further improving contentment and discipline, which now compare favorably with that at similar institutions. Perhaps a conservatory similar to the one at Dayton would also be appreciated. There has been no increase in the band during the year. The cost of that organization averages about \$135 per annum for each of the 14 members composing it, which is considerably less than the cost of the bands at the volunteer Homes, where it averaged about \$284 per member. Increased allowances for the use and improvement of the band may serve a good purpose. The library contains 6,040 volumes, a reduction of 73 from the number previously reported; and 25 papers and 23 periodicals are subscribed for. Perhaps it would be interesting to note a few of the books that are most read by veteran soldiers at these Homes.

WATER SUPPLY.

The water supply is reported sufficient and satisfactory, though the connection with the city water system does not seem to have entirely obviated the necessity for recourse to the wells and springs on the Home grounds. Facilities for bathing are reported adequate. There are ample bath tubs at both hospital and Home, with hot and cold water.

The apparatus for the protection against fire is reported sufficient and in good condition, and frequently tested. It consists of water plugs and hose and reel under charge of an organized fire company. In addition there are hose and fire buckets on each floor, except the Sherman Building. Orders have been issued assigning men to handle hose, take charge of buckets, etc., and giving instructions what to do in case of fire.

DRAINAGE AND SEWERAGE.

The system of drainage and sewerage is reported in good condition. It consists of underground drains of terra cotta pipe connecting with the city sewers, except from the officers' quarters, which are said to

empty on the surface and flow off through two ravines. The sewers are flushed with water from tanks.

Garbage is disposed of by sale and removed daily or frequently in carts. The system in vogue at several of the volunteer Homes, as Leavenworth, Hampton, Marion, etc., is commended to attention.

DISBURSEMENTS.

The disbursements and accounts of the treasurer were inspected from March 8, 1895, the date of last inspection, to October 12, 1895. The following is a summary:

HOME FUND.

Balance on hand March 8, 1895.....		\$7, 035. 32
Received from United States Treasury.....	\$104, 764. 66	
Received from sales.....	1, 391. 39	
Received from collections.....	1, 253. 68	
Received from pension fund.....	2, 439. 00	
		<hr/> 109, 848. 73

Total to be accounted for.....		116, 884. 05
Disbursed as per vouchers.....		<hr/> 91, 715. 06

Balance on hand October 12, 1895.....		25, 168. 99
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PENSION FUND.

Balance on hand March 8, 1895.....		\$67, 553. 36
Received from pension agent.....		<hr/> 41, 916. 40

Total to be accounted for.....		109, 469. 76
Disbursed to pensioners.....	\$62, 287. 19	
Transferred to Home fund.....	2, 439. 00	
		<hr/> 64, 726. 19

Balance on hand October 12, 1895.....		44, 743. 57
Total balance October 12, 1895.....		<hr/> 69, 912. 56

Distributed as follows:

United States Treasurer.....	\$69, 298. 47
Assistant treasurer, New York.....	200. 31
Cash on hand.....	<hr/> 413. 78

Total.....	69, 912. 56
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Attention has been repeatedly invited to the undesirable and dangerous practice of keeping cash balances on hand, and the necessity therefor would seem to be avoidable or minimized where the depository is within such easy reach as here. The books in the treasurer's office were neatly and properly kept.

On October 15, 1895, there were 635 members present at the Home, whose average length of service has been about sixteen years each. Of this number 515 were pensioners, who averaged slightly over \$11.50 per month each. A large percentage of these men are thrifty, and have balances to their credit. On September 30, 1895, there was due them \$46,626.04. Were inducements held out to them by giving a small rate of interest on their savings it should have a beneficial effect.

The treasurer received on pension money during the fiscal year \$83,189.20, and paid out during the same time \$83,176.52. One clerk, who is paid \$20 per month from the Home funds, makes all pension vouchers, keeps all pension accounts, and attends to correspondence and other office work in connection therewith.

The transactions affecting the permanent fund during the past two years may be stated as follows:

	1894.	1895.
Balance September 30.....	\$2, 479, 343. 32	\$2, 574, 036. 79
Credit settlements.....	197, 693. 47	188, 006. 04
Withdrawn for current expenses.....	2, 677, 036. 79 103, 000. 00	2, 762, 042. 83 72, 000. 00
Balance September 30.....	2, 574, 036. 79	2, 690, 042. 83

EXPENSES.

The current expenses for the year were.....	\$161, 039. 94
From which deduct:	
Refunded to heirs of deceased soldiers.....	\$806. 67
Refunded to heirs of deceased members.....	373. 45
Commutation to members outside.....	26, 677. 00
Insane members at asylum.....	3, 379. 28
Funeral expenses, outside members.....	323. 55
Permanent improvements.....	1, 965. 36
	<u>33, 525. 31</u>
Total expenses maintaining members.....	<u>127, 514. 63</u>
Average annual cost for each member.....	188. 01
Average cost of rations per man.....	\$62. 96
Average cost for clothing per man.....	16. 05
Average cost for laundry per man.....	2. 89
Average cost of other expenses per man.....	106. 11
	<u>188. 01</u>

Compared with last year's expenses, there seems to be a reduction of \$9.88 per capita, and with the preceding year of \$29.44. That there should have been a reduction in the average cost of maintenance simultaneously with a largely reduced membership without apparently lowering quantity or quality of food or clothing, speaks well for the management of the institution.

EMPLOYEES.

The amount paid for services during the year was as follows:

3 officers.....	\$2, 984. 88
28 noncommissioned officers.....	4, 830. 66
183 members.....	24, 063. 50
11 band.....	1, 892. 40
48 civilians.....	21, 730. 46
	<u>55, 501. 90</u>

This is a reduction of nearly \$3,000 from the amount paid for services during the preceding year, though there were 3 more members and 3 more civilians employed this year; and there is a corresponding reduction in the average daily pay, which has been to members 36½ cents and to civilians \$1.25¾. The extreme daily pay to members was \$1.66¾ and to civilians \$4. The extremes are higher than reported last year.

The amount paid for services during the past year is about 34.5 per cent of the total expenditures, and the ratio of employees to average membership is about 40.7 per cent. The sum expended for services

averaged \$81.83 for each member. The following table shows the condition in this respect for the preceding three years:

Year.	1892.	1893.	1894.
Per cent of total expenditures paid for services.....	24.6	23.7	31
Ratio of employees to average membership.....	28.0	29.7	37
Average per inmate.....	\$64.87	\$70.07	\$79.44

OUTDOOR RELIEF.

The average daily number of members on outdoor relief during the year was 323.25, to whom a total of \$26,677 was paid, or an average per annum of \$82.53 to each. The highest per month per man was \$8, the lowest \$2, and the average \$6.88. The average annual expense for each beneficiary on outdoor relief is over \$100 less than maintaining him at the Home. Considering these with the average number of members present, the annual cost of maintenance per capita becomes \$153.96. The system seems to be based on sound business principles, and were a similar system adopted for the National Volunteer Homes it would result in immediate relief from the unprecedented pressure for admission.

STORES AND CLOTHING.

The value of quartermaster stores on hand September 30, 1895, was \$10,346.50; of subsistence stores, \$101.45, and of clothing, \$5,377.63, or a total value of \$15,825.58. This gives an average for each man cared for at the institution during the year of \$9.02, and doubtless the authorized allowance, by supervision of articles in the hands of each individual, can be brought within the average expenditure. At the volunteer Homes at the inspection in 1894 the average was \$8.23 per member cared for.

Property originally valued at \$701.66 was condemned during the year by Capt. D. A. Irwin as inspector, and two old mules of no value were shot. The property condemned consisted of 2,202 articles of various description, whose cost averaged a fraction over 31 cents each. The condemnation during the year averaged \$1.03 per man: the previous year it was 41 cents. Property is accounted for to the Board of Commissioners, except ordnance stores to the Chief of Ordnance.

MESSING.

The dining hall has a capacity of 700 and is therefore ample in size to seat all members simultaneously. For each meal 37 tables are set at present. The hall was in neat order. The food is sufficient in quantity, of wholesome quality and well cooked. This is another matter in which great improvement during the past few years has been evident in serving, and system, and other particulars. Exhibit I shows the bill of fare for the week ending September 28, 1895. During the week ending October 12, 1895, there were actually consumed by an average of 524 persons present at the Home mess: 232 pounds coffee, 630 pounds sugar, 314 pounds tea, 354 pounds butter, 1,845 pounds beef, 303 pounds mutton, 300 pounds pork, 275 pounds ham, 280 pounds pig's feet, 350 pounds corned beef, 1 barrel mackerel, 140 pounds codfish, 300 pounds fresh fish, 147 dozen eggs, 100 pounds cheese, 31 bushels pota-

toes, 4 barrels green apples, 40 pounds evaporated peaches, 30 pounds rice, 25 pounds hominy, 10 pounds barley, 400 pounds cabbage, 1 barrel onions, 128 pounds salt, $7\frac{1}{2}$ pounds pepper, 20 gallons vinegar, $7\frac{1}{2}$ pounds mustard, $1\frac{1}{2}$ pounds baking powder, and 9 bottles of lemon or vanilla extract.

From August 9 to October 15 the daily consumption of potatoes averaged 9.38 ounces per man. The average cost of the raw ration during the year was $17\frac{1}{3}$ cents, and of the cooked ration 18 cents.

FARM.

The farm stock on hand September 30, 1895, consisted of six mules, valued at \$300. Five outbuildings are in use for housing stock and storing implements, hay, etc. The amount expended on the farm proper during the year is reported as \$4,926.83, and the value of the crop \$4,288.08, including 235 tons of hay, valued at \$2,157. It seems therefore that the farm has not been a paying investment during the past year.

The garden is charged with \$3,184.14 on account of labor, seeds, tools, fuel, etc., expended in the care and ornamentation of the grounds. Credit is claimed for \$1,475.50 on account of 23,700 plants, trees, and shrubs raised in garden and greenhouse; for \$127.70 on account of cherries, grapes, and pears raised in the garden, and for \$120 on account of 80 cords of wood cut on the grounds.

HOSPITAL.

The hospital is under the efficient charge of Deputy Surg. Gen. W. H. Forwood, United States Army. There has been no change in the number of employees reported last year.

The hospital is a model of cleanliness and commendable in all its appointments. The exterior needs painting, and steel ceilings should be provided for halls and dining room.

On September 30, 1895, 81 of the 85 beds were occupied by patients, an increase of 3 over the number at the corresponding time of the previous year, though the average daily number of sick has been slightly less during the year. This year it has been 76.34 in hospital and 6 at sick call. The principal diseases and percentages were: Alcoholism, 9.39 per cent; rheumatism, 6.57 per cent; tuberculosis, 8.45 per cent; heart disease, 2.58 per cent; senile debility, 3.99 per cent. These figures are in each case lower than those reported last year. There has also been a decrease in the number of deaths and in the death rate. The number of deaths during the year was 55 against 62 the previous year, and the death rate per 1,000 present and absent was lowered from 55.65 to 52. The average age at death was 62.54. The surgeon reports hygienic conditions good.

Subsistence stores are drawn on ration returns every ten days and issued daily to the cook. Special diet articles are issued as prescribed by the surgeon in charge. The average cost of the hospital ration, including articles of special diet, has been 19.9 cents, a reduction of 1.53 cents from the previous year. The surgeon reiterates the remarks of last year that the few vegetables raised on the Home farm and issued to the hospital are of inferior quality, and it is a great nuisance and a deprivation to the men to have to use them when good ones are to be had in the market for less cost; and that the milk is brought from a point several hours distant from the Home and is much deteriorated,

especially in summer, before reaching here. Milk is a chief article used in the preparation of diet for the sick, and should be of the best. Attention is invited to the exhibits appended. Respectfully submitted.

The SECRETARY OF WAR.

J. C. BRECKINRIDGE,
Inspector-General.

LIST OF EXHIBITS.

- A. Statement relative to members on out-door relief.
- B. Amount paid to civil employees during September, 1895.
- C. Names and rates of pay of inmates on extra duty September 30, 1895.
- D. Vegetables purchased in addition to those received from the farm for the year ended September 30, 1895.
- E. Prices paid for supplies during September, 1895.
- F. Recapitulation of expenditures from October 1, 1894, to September 30, 1895, and receipts and expenditures for fiscal year under each head.
- G. Amount expended on officers' quarters and permanent buildings from October 1, 1894, to September 30, 1895.
- H. Vegetables and fruit furnished the Home and hospital mess from farm and garden for the year ended September 30, 1895.
- I. Home mess bill of fare for the week ended September 28, 1895.
- K. Number of horses and mules owned and employed September 30, 1895.
- L. Disbursements of the treasurer for the months of January and July, 1895.
- M. Field return of inmates, October 15, 1895.
- N. Garden account from October 1, 1894, to September 30, 1895.
- O. Farm account from October 1, 1894, to September 30, 1895.
- P. List of crockery ware used daily in Home mess hall from January 1 to June 30, 1895.
- Q. List of contracts for supplies and services, September 30, 1895.
- R. List of persons paid for services in more than one capacity, September 30, 1895.
- S. Statement showing the number of inmates present October 15, 1895, with length of army service; also, number of pensioners and rate of pension.
- T. Value of product of farm, by item, during year ended September 30, 1895.
- U. Hospital diet, general and special.
- V. List of medicines on hand September 30, 1895, and six months' supply received October 5, 1895.

A¹.—Statement relative to members on outdoor relief.

Average number for one year from October 1, 1894, to September 30, 1895.....	323.25
Total amount paid for outdoor relief during year ended September 30, 1895.....	\$26,677.00
Average amount paid per man for one year.....	82.5274
Average amount paid per man for one month.....	6.8772
Highest amount paid per man for one month.....	8.00
Lowest amount paid per man for one month.....	2.00

A².—Annual report of members receiving outdoor relief, September 30, 1895; rates of relief, pensions, etc.

Receiving outdoor relief:		Receiving pensions—Continued.	
\$8 per month.....	257	\$16 per month.....	5
\$4 per month.....	2	\$17 per month.....	14
\$2 per month.....	53	\$20 per month.....	2
Total.....	312	\$22 per month.....	1
Receiving outdoor relief Sept. 30, 1894.....	323	\$24 per month.....	4
Net loss during the year.....	11	\$25 per month.....	1
		\$30 per month.....	3
Of the number receiving outdoor relief there are nonpensioners.....	72	Total nonpensioners.....	72
Receiving pensions:		Total pensioners.....	240
\$6 per month.....	60	Total.....	312
\$8 per month.....	47	Of this number there are Mexican war survivors.....	142
\$10 per month.....	7	Men who have served twenty-five years or over.....	45
\$12 per month.....	95	Of this latter number there are nonpensioners.....	4
\$14 per month.....	1		

Eighteen members of the Home, on outdoor relief, have died since date of last report. Twenty-seven members were dropped from outdoor relief after June 30, 1895, in compliance with resolutions of the Board of Commissioners dated June 19, 1891, and July 20, 1895.

B.—Amount paid to civil employees during September, 1895.

One clerk to Board of Commissioners.....	\$100. 00
One clerk to secretary and treasurer.....	100. 00
J. B. Nichols, clinical assistant to the attending surgeon.....	100. 00
Rev. D. C. De Wulf, religious services and services of choir.....	45. 00
Rev. James A. Buck, religious services.....	30. 00
Rev. Gustav Facius, religious services.....	30. 00
Lulu Facius, services as organist and in choir.....	25. 00
One gardener and florist.....	50. 00
Six day laborers in garden and grounds.....	187. 50
One farm overseer.....	50. 00
Six farm laborers.....	192. 00
One driver of dairy wagon.....	19. 00
One plumber.....	85. 00
One blacksmith.....	75. 00
One chief engineer, boiler house.....	75. 00
One assistant engineer.....	60. 00
Three foremen, at \$33 each per month.....	99. 00
One engineer, pump house.....	50. 00
One chief cook.....	50. 00
One assistant cook.....	25. 00
One chief baker.....	50. 00
One assistant baker.....	45. 00
One ambulance driver.....	20. 00
One man, care of horses, harness, and conveyances for treasurer.....	10. 00
Laborers in gravel pit.....	53. 75
Total	1, 626. 25

C.—Inmates on extra duty, September 30, 1895.

No.	Name.	On what work employed.	Pay per month.
1	Evans, Thomas.....	Sergeant-major and clerk.....	\$50. 00
2	Campbell, Alexander.....	Commissary-sergeant.....	18. 00
3	Probst, Fred.....	Quartermaster-sergeant.....	18. 00
4	O'Brien, James.....	First sergeant, King Building.....	15. 00
5	Kernahan, William.....	First sergeant, Sherman Building.....	15. 00
6	Blau, John.....	First sergeant, Sheridan Building.....	15. 00
7	Pownall, Joseph.....	First sergeant, Anderson Building.....	15. 00
8	Heens, Michael.....	First sergeant, Scott Building.....	15. 00
9	Stauffer, Rudolph.....	Floor sergeant, King Building, and charge of kitchen.....	17. 00
10	Corcoran, John.....	Floor sergeant, Sheridan Building.....	12. 00
11	Masa, Joseph.....	Floor sergeant, Sherman Building.....	12. 00
12	O'Malley, Michael.....	Floor sergeant, Scott Building.....	12. 00
13	Kerr, Henry.....	Floor sergeant, Sheridan Building.....	12. 00
14	Conroy, John.....	Floor sergeant, Scott Annex Building.....	12. 00
15	Collins, Henry.....	Floor sergeant, Scott Building.....	12. 00
16	Brown, Henry.....	Floor sergeant, King Building.....	12. 00
17	Grau, John M.....	Floor sergeant, Sherman Building.....	12. 00
18	Pozygodzinski, Marcel.....	Sergeant in charge of dining room.....	12. 00
19	Gaffney, William.....	Sergeant, superintendent of working parties on roads.....	20. 00
20	Ring, Philip.....	Provost-sergeant and chief of Home police.....	17. 00
21	Ryan, Thomas W.....	Corporal, charge of billiard tables, etc.....	10. 00
22	Tuffs, Richard W.....	Corporal, charge of stables, forage, etc.....	10. 00
23	Miller, Herman.....	Corporal, laundryman.....	10. 00
24	Willson, Alexander.....	Corporal, chief of hose and reel company, fire department.....	10. 00
25	Young, Edward.....	Corporal, assistant superintendent of working parties on roads.....	10. 00
<i>Home band.</i>			
1	Pownall, Joseph.....	Leader, paid also as first sergeant, Anderson Building.....	15. 00
2	Chwosta, Albert.....	First-class musician.....	12. 00
3	Csech, Ludwig.....	do.....	12. 00
4	Cooley, George W.....	do.....	12. 00
5	Dupins, Louis C.....	do.....	12. 00
6	Hopfengartner, Max.....	do.....	12. 00
7	Kramer, August.....	First-class musician and bugler.....	20. 00
8	Ryan, Jeremiah.....	do.....	12. 00
9	Stallwood, George.....	do.....	12. 00
10	Stewart, Gilbert.....	do.....	12. 00
11	Spies, William.....	Second-class musician.....	8. 00
12	Keppler, Gustav.....	do.....	8. 00
13	Zimmerman, Francis.....	do.....	8. 00
14	Meyrelles, Michael C.....	do.....	8. 00
<i>Home buildings.</i>			
1	Anderson, Wm. H.....	Night watchman.....	10. 00
2	Boyne, Thomas.....	do.....	10. 00
3	Burke, De Witt C.....	Reader to the blind.....	7. 00

C.—Inmates on extra duty, September 30, 1895—Continued.

No.	Name.	On what work employed.	Pay per month.
<i>Home buildings—Cont'd.</i>			
4	Coughlig, Thomas	Attendant for blind inmates	\$10.00
5	Cockerell, Henry J.	Night watchman	10.00
6	Davenport, Chas. H.	Attendant for a helpless inmate	10.00
7	East, Thompson R.	Night watchman	10.00
8	Fortner, Valentine	Laborer in amusement hall, Sheridan Building	7.00
9	Gordon, James	Laborer in wash and bath rooms, King Building	5.00
10	Green, William	Laborer in wash and bath rooms, Sheridan Building	5.00
11	Hill, Frederick	Floor police for invalids, Scott Building	7.00
12	Holt, Peter	Laborer in wash and bath rooms, Sherman Building	5.00
13	Heller, Joseph	Night watchman	10.00
14	Knorr, Caesar	Laborer in wash and bath rooms, Scott Building	5.00
15	Mair, George	Laborer in wash and bath rooms, Sheridan Building	5.00
16	Mair, William	Night watchman	10.00
17	Murbach, Valentine	do	10.00
18	McElwee, John	Laborer in bath and wash rooms, Sheridan Building	5.00
19	Olsen, Jens	Laborer in billiard hall	7.00
20	O'Brien, James	Assistant laundryman	7.00
21	Showers, John	Night watchman	10.00
22	Szekely, John	Assistant laundryman	7.00
23	Stevens, Robt. W.	Laborer in amusement hall, King Building	7.50
24	Odder, Michael	Night watchman	10.00
25	Welch, John	Night watchman	10.00
26	Teen, Simon B.	Laborer in main water-closet	7.00
27	Taylor, Abel	Floor police, and laborer in wash and bath rooms, Anderson Building	7.00
28	Totten, William H.	Laborer in bath and wash rooms, Sherman Building	5.00
<i>Governor's office.</i>			
1	Hasselfeldt, Charles	Clerk, and in charge of tower clock	25.00
2	Moore, Jacob	Clerk	20.00
3	McGurn, James	Governor's orderly	10.00
<i>Kitchen.</i>			
1	Fingleton, Patrick	Assistant cook	10.00
2	Streif, John	do	10.00
3	Walton, Frank	Assistant cook and butcher	15.00
4	McDonald, Hugh	do	10.00
5	Day, Samuel J.	do	10.00
<i>Dining room.</i>			
1	Beck, Fritz	Dining-room police	9.00
2	Bluhm, William	do	9.00
3	Barwis, Richard	do	9.00
4	Bertschinger, Gustav	do	9.00
5	Butterworth, Wm. H.	do	9.00
6	Black, Richard	do	9.00
7	Erley, Michael	do	9.00
8	Elwood, William	do	9.00
9	Glenn, William	do	9.00
10	Lanz, Charles H.	do	9.00
11	Johnson, Alfred	do	9.00
12	Fierbaum, Albert	do	9.00
13	Fortner, Charles E.	do	9.00
14	Murphy, Peter	do	9.00
15	Moran, William	do	9.00
16	Mitchell, Philip	do	9.00
17	McMahon, Michael	do	9.00
18	Lyne, Patrick	do	9.00
19	Nolan, John	do	9.00
20	Wehrssen, Edward	do	9.00
21	Wallace, William D.	do	9.00
22	Williams, John	do	9.00
<i>Home police.</i>			
1	Lease, Jeremiah	House and general police	9.00
2	Yocum, Amos	do	9.00
3	Fitzpatrick, Andrew	do	9.00
4	Carroll, Michael	do	9.00
<i>Library.</i>			
1	Sigrist, Eugene	Sergeant, librarian	12.00
2	Neben, Charles	Corporal, assistant librarian	10.00
3	Rathgeber, Frank	Bookbinder	15.00
<i>Grounds and roads.</i>			
1	Burke, William	Laborer on roads	9.00
2	Byrnes, James	do	9.00
3	Carpenter, A. H.	Gate keeper	7.00

C.—Inmates on extra duty, September 30, 1895—Continued.

No.	Name.	On what work employed.	Pay per month.
<i>Grounds and roads—Continued.</i>			
4	Haney, John.....	Laborer on roads.....	\$9.00
5	Ford, Patrick.....	Gate keeper.....	7.00
6	Foley, John.....	Laborer on roads.....	9.00
7	Finen, John.....	do.....	9.00
8	Hanlon, Thomas.....	do.....	9.00
9	Hanlon, Henry.....	do.....	9.00
10	Hayday, John.....	do.....	9.00
11	Hunter, Nathan E.....	Lamplighter.....	7.00
12	Ivers, Richard G.....	Gate keeper.....	7.00
13	Kelly, John.....	Laborer on roads.....	9.00
14	Levally, John.....	do.....	9.00
15	Mantello, Thomas J.....	do.....	9.00
16	Murray, James.....	Gate keeper.....	7.00
17	Mansfield, Charles F.....	do.....	7.00
18	Piedfort, Albert.....	do.....	7.00
19	Scully, Daniel.....	Laborer on roads.....	9.00
20	Quill, Dennis.....	do.....	9.00
21	Wilson, David.....	do.....	9.00
22	Wallace, Maxillary.....	do.....	9.00
<i>Shops and woodhouse.</i>			
1	Childs, Charles T.....	Carpenter.....	15.00
2	Cavanaugh, John.....	do.....	15.00
3	Fitzpatrick, James.....	do.....	15.00
4	Kortmann, Louis.....	Upholsterer.....	15.00
5	Kaiser, George A.....	Plumber's helper.....	10.00
6	Kemp, George W.....	Painter.....	15.00
7	McCully, John.....	Laborer in woodhouse.....	9.00
8	Williams, Thomas.....	Painter.....	15.00
<i>Miscellaneous.</i>			
1	Brown, George.....	Attending surgeon's messenger.....	10.00
2	Connor, William.....	Laborer in pump house.....	10.00
3	Foley, John.....	Deputy governor's orderly.....	10.00
4	Leonard, Godfrey H.....	Mail carrier.....	15.00
5	Jacobs, Jacob H.....	Cart driver (mail).....	9.00
6	Coughlin, Charles.....	Laborer in Home chapel.....	7.00
7	Gallagher, Daniel.....	Cart driver (commissary).....	9.00
8	Morehead, John.....	Cart driver (laundry).....	9.00
<i>Treasurer's office.</i>			
1	Condon, James.....	Clerk and telephone operator.....	20.00
2	Harrison, Robert H.....	Clerk.....	30.00
3	O'Connor, Jeremiah.....	do.....	20.00
4	Cotton, Richard.....	Orderly.....	10.00
<i>Hospital.</i>			
1	Shafer, Henry.....	Commissary sergeant.....	15.00
2	Rubin, Charles A.....	Druggist.....	20.00
3	Harrison, Gustav.....	Wardmaster.....	20.00
4	Burk, James.....	do.....	20.00
5	McMurray, James B. G.....	do.....	20.00
6	Green, John.....	do.....	20.00
7	Brockman, Herman.....	do.....	20.00
8	Bowker, Henry J.....	do.....	20.00
9	Bentzen, Niels.....	Nurse.....	18.00
10	Lemay, Louis.....	do.....	18.00
11	Dempsey, Benjamin F.....	do.....	18.00
12	Wilson, Hugh.....	do.....	18.00
13	Von Toussaint, Gustav.....	do.....	18.00
14	Smith, George W.....	do.....	18.00
15	Shook, Edward S.....	Chief cook.....	20.00
16	Fales, Willard.....	Second cook.....	10.00
17	Willman, Henry.....	Dishwasher.....	9.00
18	Wiesner, William.....	do.....	9.00
19	Lewis, Alfred E.....	Chief, dining room.....	10.00
20	Regan, James.....	Assistant, dining room.....	9.00
21	Rasmussen, Hans.....	do.....	9.00
22	Maybrey, York.....	Fireman.....	10.00
23	Spears, James.....	Assistant fireman.....	9.00
24	Sommerville, Edward.....	Fireman, fan house.....	10.00
25	De Lacey, James H.....	Messenger.....	9.00
26	Mason, Joseph.....	Watchman.....	9.00
27	Clemens, Eugene L.....	do.....	9.00
28	Donohue, John.....	Hallman.....	9.00
29	Richards, William.....	Librarian.....	5.00
30	Smith, Benjamin W.....	Special nurse.....	9.00

D.—Vegetables purchased in addition to those received from the farm for the year ended September 30, 1895.

Date of purchase.	Onions.	Potatoes, sweet.	Cabbage.	Grapes.	Cabbage.	Grapes.	Cran-berries.	Apples.
1894.	<i>Bushels.</i>	<i>Barrels.</i>	<i>Heads.</i>	<i>Baskets.</i>	<i>Barrels.</i>	<i>Crates.</i>	<i>Bushels.</i>	<i>Barrels.</i>
October.....	22	23	500	210	3			
November.....	21	1	300		2	19		
December.....	23	4	300		14		4	9
1895.								
January.....	24	11			19			
February.....	21	6			17			
March.....	18				20			
April.....	18	1			4			
May.....	18				18			
June.....	19				1			
July.....	23							
August.....	18							
September.....	18		175	20				
Total.....	243	46	1,275	230	98	19	4	9
Cost.....	\$275.75	\$85.75	\$69.38	\$35.40	\$188.75	\$20.00	\$15.00	\$29.50
Date of purchase.	Celery.	Oranges.	Red pep-pers.	Parsnips.	Potatoes, white.	Kale.	Straw-berries.	Rasp-berries.
1894.	<i>Stalks.</i>	<i>Boxes.</i>	<i>Number.</i>	<i>Barrels.</i>	<i>Bushels.</i>	<i>Barrels.</i>	<i>Quarts.</i>	<i>Quarts.</i>
October.....								
November.....								
December.....	200	10						
1895.								
January.....			25					
February.....				12	170			
March.....					234	1		
April.....					165	1		
May.....					211			
June.....					192		792	
July.....								224
August.....								
September.....								
Total.....	200	10	25	12	972	2	792	224
Cost.....	\$10.00	\$25.00	\$0.30	\$27.00	\$823.05	\$2.00	\$39.00	\$15.08
Date of purchase.	Potatoes, white.	Water-melons.	String beans.	Black-berries.	Green peas.	Canta-loupes.	Cabbage.	Total.
1894.	<i>Barrels.</i>	<i>Number.</i>	<i>Barrels.</i>	<i>Quarts.</i>	<i>Barrels.</i>	<i>Number.</i>	<i>Pounds.</i>	
October.....								\$126.50
November.....								50.25
December.....								143.75
1895.								
January.....								71.05
February.....								223.75
March.....								261.40
April.....								190.50
May.....								244.55
June.....								235.00
July.....	76	130	2	160	2			257.03
August.....	12	279						107.35
September.....		183				650	1,200	57.26
Total.....	88	592	2	160	2	650	1,200	
Cost.....	\$182.50	\$79.98	\$2.00	\$13.44	\$2.00	\$31.00	\$5.50	1,977.06

E.—Prices paid for supplies during September, 1895.

Articles purchased.	Thomas Cross.	W M Galt & Co	Wilkins & Co.	J. B. Bryan & Bro	Browning & Middleton.	The Hygienic Ice Co.	Geo. N. Omohundro.	Jas. L. Barbour & Son.	James F. Oyster.	G. Taylor Wade.	S. R. Waters.
Watermelons. per hundred	\$14.00									\$12.00	
Flour. per barrel		\$4.14									
Butterine. per pound			\$0.11								
Eggs. per dozen			.15						\$0.17		
Beans. per bushel				\$1.80							
Vinegar. per gallon				.07							
Pepper. per pound				.03							
Mustard. do.					\$0.24						
Tripe. do.					.04			\$0.05			
R. B. powder. do.					.40						\$0.40
Salt soda. do.					.01			.01			.01
White pepper. do.					.18						
Cayenne pepper. do.					.18						
Ice. per cwt						\$0.22					
Fresh beef. per pound							\$0.0567				
Corned beef. do.							.0275				
Fresh mutton. do.							.0750				
Ham. do.								0.093			
Codfish. do.								.04			
Extract lemon. per dozen								1.75			1.50
Extract vanilla. do.								2.25			
Pigs feet. per pound								.05			.04
Oatmeal. per barrel								4.50			
Hominy. per pound								.02			
Evaporated apples. do.								.08			.08
Evaporated peaches. do.								.10			.10
Canned tomatoes. per doz.								.75			.75

Articles purchased.	L. A. Gould.	Frank Hume.	R. A. Golden.	James F. Oyster.	J. J. Hogan.	G. Taylor Wade.	S. R. Waters.
Milk. per gallon	\$0.14						
Breast bacon. per pound		\$0.0838					
C sugar. do.		0.0347					
P. P. shoulders. do.		0.0573					
Fresh fish. do.			\$0.08				
Chickens. each				\$0.40			
Oysters. per gallon					\$0.75		
Onions. per bushel						\$0.87	
Cabbage. per head						.01	
Cantaloupes. each						.05	
Cabbage. per pound						.0046	
Grapes. per basket						.12	
Roasted coffee. per pound							\$0.1873
A sugar. do.							.041
Salt. per sack							.87
Green coffee. per pound							.17
Graham flour. per barrel							4.00
Rice. per pound							.0399
Tea. do.							.16
Mackerel. per barrel							15.73
Cheese. per pound							.10
Cinnamon. do.							.25
New Orleans molasses, per gallon							.35
Ground ginger. per pound							.06
Corn starch. do.							.07
Ground mace. do.							.06
Corn meal. per barrel							2.50
Beer. per dozen							.75
Canned lima beans. do.							1.25
Canned green corn. do.							.95
Cocoa. per pound							.45
Soda crackers. do.							.07
Dublin stout. per dozen							2.00
Gelatin. per package							.10
Lard. per pound							.10
Macaroni. do.							.04
Roiled oats. per package							.10
Kelains. per pound							.08

E.—Prices paid for supplies during September 1895—Continued.

Articles purchased.	L. A. Gould.	Frank Hume.	R. A. Golden.	James F. Oyster.	J. J. Hogan.	C. Taylor Wade.	S. R. Watson.
Granulated sugar, per pound							\$0.05
Rolled tongue..... per box							.80
Worcester sauce... per pint							.50
French soups..... per dozen							4.00
Canned string beans, per dozen							.80
Corn meal..... per pound							01½
Currants..... do							.06
Farina..... per package							.60
Lemons..... per dozen							.32
Yeast cakes..... per cake							.02
Marrowfat peas... per dozen							1.07
Prunes..... per pound							.08½
Vermicelli, per dozen pack- ages							1.20
Cucumber pickles, per gallon							.25
Extract beef..... per dozen							5.00
Tapioca..... per pound							.10
Condensed milk... per dozen							2.00
Fresh pork..... per pound							.11
Sausage meat..... do							.06
Bologna sausage..... do							.08
Frankfurter sausage... do							.09
Smoked sausage..... do							.09
Head-cheese..... do							.09
Blood pudding..... do							.09

F.—Recapitulation of expenditures from October 1, 1894, to September 30, 1895.

Expenses of the officers' quarters.....	\$253.90
Compensation of the governor, deputy governor, treasurer, and clerk to Board of Commis- sioners.....	4,184.88
Transportation furnished to discharged soldiers en route to the Home to be refunded to Quartermaster's Department.....	727.54
Fuel for the Home.....	7,996.25
Expenses of the hospital for medicines, medical stores, spectacles, false teeth, materials for collins, etc.....	1,708.39
Expenses of the hospital for mess and kitchen utensils, and all running expenses, including compensation to inmates and pay of civilian employees.....	15,448.59
Refunded to claimants as heirs of deceased soldiers.....	806.67
Refunded to claimants as heirs of deceased inmates.....	373.45
Clothing for inmates.....	10,884.50
Subsistence stores and ice, including special diet and stimulants for the sick.....	34,706.76
Expenses Home bakery for repairs.....	7.65
Bedding for inmates, bedsteads, blankets, upholstery materials, etc.....	520.36
Farm, garden, and dairy utensils, seeds, guano, manure, cultivation of garden, ornamenta- tion of grounds, pay of farm, garden, dairy, and other employees.....	17,229.53
Mess and kitchen utensils, and all other articles except bedding for the Home.....	1,346.00
Material for general repairs to buildings, repairs of roads and fences, purchase and repairs to harness, vehicles, and purchase of mechanical tools.....	1,713.26
Forage for Home animals, articles used in stables.....	1,313.20
Expenses of the library, governor's and treasurer's offices, postage, post-office box rent, stationery, etc., for commissioners' office, freight, telegrams, and amusements.....	1,548.66
Incidental expenses, rent of telephone, hack hire, advertising, traveling expenses, pro- fessional services, and expenses of the Home chapel.....	602.47
Religious services.....	2,040.00
Laundry work.....	1,956.76
Compensation and monthly allowance to inmates, nonpensioners on duty at the Home, except compensation to inmates on duty at Barnes Hospital.....	20,322.48
Commutation to members of the Home residing outside.....	26,677.00
Gas for the Home, including rental of Amick's gas regulators.....	2,996.25
Board and medical treatment of members of the Home in Government Hospital for the Insane.....	3,379.28
Funeral expenses of members of the Home residing outside.....	323.55
Permanent improvements new fences, wells, repairs to bridges, lamp-posts, gas lamps, paving, sewerage, etc. pointing up walls of Scott and Sherman buildings, remodeling brickwork for boilers in boiler house.....	1,965.26
Total expenditures.....	161,030.94

F².—Receipts and expenditures for fiscal year, under each head.

	Receipts.	Expenditures.
mmutation to members outside	\$26,700.00	\$26,677.00
urrent expenses.....	38,811.07	38,611.56
bsistence, including hospital	47,880.74	42,266.53
othing.....	10,890.00	10,884.50
ousehold.....	16,750.00	16,618.26
ospital, not including subsistence.....	10,500.00	9,619.31
ansportation	686.15	727.58
nstruction and repairs	6,000.00	6,020.56
rm	4,288.08	4,926.83
rden	1,723.20	3,184.14
esthumous fund.....	798.97	1,503.67
Total	165,028.21	161,039.94

—Amount expended on officers' quarters and permanent buildings from October 1, 1894, to September 30, 1895.

ouse No. 1, quarters of governor	\$189.02
ouse No. 2, quarters of deputy governor	54.86
ouse No. 3, quarters of treasurer	5.29
ouse No. 4, quarters of surgeon	4.79
Total	253.96

On account of repairs and construction of permanent buildings.

me kitchen, repairs, plumbing, new table, etc.....	\$38.31
me buildings, making stands for lockers, purchase of mirrors, lumber for lockers.....	552.70
eenhouse, repairs and purchase of material.....	122.53
me fire department, new wheels for hose carriage, purchase of hose and hose pipe.....	426.00
ng Building, lumber for partitioning certain rooms, plastering, paints and oils, plumbing..	212.77
nusement room, purchase of new billiard table, repairs to billiard and pool tables.....	359.00
ads and grounds, purchase of gravel, repairing roads, cobblestones for paving gutters	116.05
st gate lodge, lumber for flooring.....	7.15
hitney avenue gate lodge, hydrant for use of	6.50
urnes Hospital, repairs to furnaces and elevator, plumbing, paints and oils.....	161.16
me library, purchase of cocoa matting.....	61.20
sw water system, repairs to electrical alarm at pumping station.....	3.72
me bakery, new grates for oven.....	7.65
ott Building, pointing up stonework, plumbing repairs, painting inside	320.57
eridan Building, plumbing repairs	20.22
nderson Building, repairs.....	2.00
erman Building, pointing up stone work, plumbing, and repairs.....	237.97
iler house, repairs to steam apparatus, material and labor resetting boilers, paints and oils.	1,039.63
sw amusement hall, services making blue prints, furnishing paper, advertising and printing	106.11
Total	3,801.24

—Vegetables and fruit furnished Home and hospital mess from farm and garden for the year ended September 30, 1895.

	Value of vegetables.	Value of fruit.
ome mess	\$1,954.47	\$70.50
urnes Hospital	279.60	10.25
Total	2,234.07	80.75

Average number of men in Home and hospital during same period, 679.

I.—Home mess bill of fare for the week ended September 28, 1895.

Sunday, September 22, 1895.—Breakfast: Boiled eggs, bread, butter, and coffee. Inner: Roast beef with gravy, potatoes, green corn, beets, rice pudding, bread, ilk, and coffee. Supper: Fruit cake, bread, butter, sirup, and tea. Milk consumed (24 gallons): For coffee, 11; tea, 6; kitchen, 14; mess hall, 34 gallons.

Monday, September 23, 1895.—Breakfast: Ham, hominy, bread, butter, and coffee. Dinner: Vegetable soup, boiled beef, potatoes, beets, bread, milk, and coffee. Supper: Stewed apples, bread, butter, and tea. Milk consumed (57½ gallons): For coffee, 11; tea, 6; kitchen, 4; mess hall, 40 gallons.

Tuesday, September 24, 1895.—Breakfast: Beef stew, bread, butter, and coffee. Dinner: Roast beef with gravy, potatoes, string beans, pickles, bread, milk, and coffee. Supper: Pigs' feet, bread, butter, sirup, and tea. Milk consumed (52½ gallons): For coffee, 11; tea, 6; kitchen, 5½; mess hall, 30 gallons.

Wednesday, September 25, 1895.—Breakfast: Corned-beef hash, bread, butter, and coffee. Dinner: Bean soup, corned beef, potatoes, beets, bread, milk, and coffee. Supper: Stewed green pears, bread, butter, and tea. Milk consumed (52½ gallons): For coffee, 11; tea, 6; kitchen, 1½; mess hall, 34 gallons.

Thursday, September 26, 1895.—Breakfast: Mackerel, potatoes, bread, butter, and coffee. Dinner: Mutton stew, green corn, pickles, bread, milk, and coffee. Supper: Corn bread, bread, butter, sirup, and tea. Milk consumed (52½ gallons): For coffee, 11; tea, 6; kitchen, 1½; bakery, 8; mess hall, 26 gallons.

Friday, September 27, 1895.—Breakfast: Picked codfish, potatoes, bread, butter, and coffee. Dinner: Baked fresh fish, cold sliced meat, string beans, potatoes, beets, bread, milk, and coffee. Supper: Bread, cheese, butter, sirup, and tea. Milk consumed (52½ gallons): For coffee, 11; tea, 6; kitchen, 1½; mess hall, 34 gallons.

Saturday, September 28, 1895.—Breakfast: Beef stew, bread, butter, and coffee. Dinner: Pork shoulders, cabbage, potatoes, beets, bread, milk, and coffee. Supper: Stewed green pears, bread, butter, and tea. Milk consumed (52½ gallons): For coffee, 11; tea, 6; kitchen, 1½; mess hall, 34 gallons.

K.—Number of horses and mules owned and employed September 30, 1895.

Horses:		
For carts on roads, grounds, and police	6	
For laundry wagon	2	
For market wagon.....	2	
For hospital ambulance.....	2	
For mail wagon.....	1	
Total	13	
Mules:		
For use of Home farm.....	6	

Transportation.

	Use of—			
	Governor.	Deputy governor.	Treasurer.	Clinical assistant.
Forage for horses.....	3	2	2	1
Buggy and single harness.....			1	

L¹.—Disbursements of the treasurer for the months of January and July, 1895.

SERVICES RENDERED.

Nature of services.	January.	July.
Board and medical treatment of members of the Home in Government Hospital for the Insane.....	\$820.71	.....
Refunded to heirs of deceased soldiers.....	23.12	\$84.61
Transportation furnished to discharged soldiers and refunded to Quartermaster's Department.....	98.13	69.88
Difference in pay (active and retired) Brig. Gen. D. S. Stanley, U. S. A., governor	114.58	114.58
Difference in pay (active and retired) Bvt. Maj. R. C. Parker, U. S. A., secretary and treasurer.....	75.83	75.88
Difference in pay (active and retired) Capt. D. A. Irwin, U. S. A., deputy governor	58.33	58.33
Compensation to clerk, office Board of Commissioners.....	100.00	100.00
Services as clinical assistant to the attending surgeon, Barnes Hospital.....	100.00	100.00
Religious services in Home chapel.....	190.00	190.00
Rental of Amick's gas regulators.....	20.00	20.00
Laundry work for Home and hospital.....	224.97	142.44
Relief and entertainment fund ordered to be turned over to the governor for part of July, 1894.....	9.50	.....
Service, printing for Barnes' Hospital.....	1.50	.....

L¹.—Disbursements of the treasurer for the months of January and July, 1895—Cont'd.

SERVICES RENDERED—Continued.

Nature of services.	January.	July.
Post-office box rent, clock oil, and car fare, freight charges.....	\$5. 70	\$6. 28
Laborer on gas mains.....	5. 62	.....
Pay of gardener and florist.....	50. 00	50. 00
Laborers in garden and grounds.....	191. 87	198. 75
Pay of overseer of farm.....	50. 00	50. 00
Laborers on farm.....	132. 00	197. 00
Driver of dairy wagon.....	19. 00	19. 00
Services of clerk to secretary and treasurer.....	100. 00	100. 00
Plumber.....	85. 00	85. 00
Tinner.....	75. 00	.....
Chief engineer, boiler house.....	75. 00	75. 00
Assistant engineer, boiler house.....	60. 00	60. 00
Engineer, pump house.....	50. 00	50. 00
Three firemen at boiler house, at \$33 each.....	99. 00	99. 00
Chief cook, Home mess.....	50. 00	50. 00
Assistant cook for Home mess.....	25. 00	25. 00
Chief baker.....	50. 00	50. 00
Assistant baker.....	45. 00	45. 00
Blacksmith.....	75. 00	75. 00
Pay of ambulance driver.....	20. 00	20. 00
Services of man in charge of horses, harness, and conveyances for the treasurer.....	10. 00	10. 00
Compensation to inmates on duty at the Home.....	1, 434. 66	1, 414. 72
Compensation to inmates on duty at Barnes' Hospital.....	407. 20	417. 20
Compensation to inmate musicians, Home band.....	171. 80	169. 00
Monthly allowance to inmates, nonpensioners.....	98. 43	87. 62
Services printing, and repairing clock.....	.....	8. 00
Services of inspector gas meters.....	.....	13. 00
Carriage hire for Board of Commissioners for March, April, and May, 1895.....	.....	9. 00
Refunded to heirs of deceased inmates.....	.....	1. 44
Funeral expenses of members of the Home residing outside.....	.....	25. 00
Services advertising proposals for the construction of amusement hall, and for hay.....	.....	25. 57
Harvesting hay.....	.....	142. 53
Laborers in gravel pit.....	.....	20. 00
Total.....	5, 231. 95	4, 495. 78

L².—Disbursements of the treasurer for the months of January and July, 1895.

PURCHASE OF PROVISIONS.

Articles.	January.		July.	
	Quantities.	Value.	Quantities.	Value.
Pies.....number.....	390	\$58. 50	360	\$54. 00
Flour.....barrels.....	92	311. 02	56	231. 84
Hops.....pounds.....	10	6. 00	.....	.....
Malt.....do.....	15	. 60	.....	.....
Ice.....do.....	12, 550	37. 02	67, 055	152. 55
Bologna sausage.....do.....	375	33. 75	15	1. 35
Pork sausage.....do.....	1, 962	176. 58	.....	.....
Fresh pork.....do.....	1, 525	122. 00	200	20. 00
Head-cheese.....do.....	295	26. 55	.....	.....
Smoked sausage.....do.....	67	6. 03	150	13. 50
Butterine.....do.....	2, 136	256. 32	1, 940	213. 40
Beans.....do.....	400	11. 33	400	13. 27
Candles.....do.....	40	3. 00	30	2. 10
Salt.....sacks.....	4	3. 45	4	3. 48
Codfish.....pounds.....	805	50. 23	720	31. 51
Canned corn.....dozen.....	2	2. 00	10	10. 00
Canned lima beans.....do.....	2	2. 50	5	6. 25
Canned peaches.....do.....	2	4. 00	.....	.....
Rolled oats.....barrels.....	1	4. 75	.....	.....
Hominy.....pounds.....	300	5. 50	100	1. 75
Extract of lemon.....dozen.....	3	4. 75	4	6. 50
Eggs.....do.....	180	43. 40	860	105. 76
Sal soda.....pounds.....	320	4. 80	620	8. 93
Evaporated pears.....do.....	100	10. 00	114	11. 40
Oyster crackers.....do.....	30	2. 10	.....	.....
Evaporated peaches.....do.....	150	15. 50	.....	.....
Canned tomatoes.....dozen.....	28	23. 30	32	24. 60
Evaporated apples.....pounds.....	200	18. 00	50	4. 25
Chickens.....number.....	10	4. 55	15	7. 80
Fresh fish.....pounds.....	930	74. 40	750	60. 00
Clams.....gallons.....	.....	.....	88	64. 50

L².—Disbursements of the treasurer for the months of January and July, 1895—Cont'd.

PURCHASE OF PROVISIONS—Continued.

Articles.	January.		July.	
	Quantities.	Value.	Quantities.	Value.
Oysters.....gallons..	135½	\$102.15		
Fresh beef.....pounds.	9,730	520.55	9,716	\$570.32
Pepper.....do.....	24	2.16	30	2.55
Corned beef.....do.....	4,673	128.52	3,270	89.92
Soap.....do.....	780	31.20	600	21.45
Fresh mutton.....do.....	1,144	85.80	323	24.23
Ground mace.....do.....	1	.75	1½	1.53
Veal.....do.....	193	14.48	800	66.75
Pigs' feet.....do.....			750	41.30
Bacon.....do.....	717	69.91	804½	65.33
Ground cloves.....do.....			1	.20
Rice.....do.....	100	4.50	300	11.97
"C" sugar.....do.....	1,725	73.82	1,776	61.02
"A" sugar.....do.....	1,763	87.27	1,708	70.02
Roasted coffee.....do.....	1,526½	290.04	1,330	249.10
Tripe.....do.....			320	16.00
Mustard.....do.....	48	13.20	30	7.35
Raspberries.....quarts.			224	15.68
Green coffee.....pounds.	9	1.58	9	1.53
Green peas.....barrels.			2	2.00
Tea.....pounds.	176	29.92	205	32.80
Sausage meat.....do.....			50	4.50
Faust beer.....dozen.	6	4.50	4	3.00
Worcestershire sauce.....do.....	1	2.75	½	1.00
Dublin stout.....do.....	4	8.00	1	2.00
Sweet oil.....do.....	2	9.50		
Cheese.....pounds.	669	76.96	478	49.00
Prunes.....do.....			50	4.50
Currants.....do.....	10	.60	80	4.80
Powdered sugar.....do.....			10	.60
Ham.....do.....	1,929	226.66	1,633	159.21
Vermicelli.....do.....			12	1.20
Lard.....do.....	10	1.00	5	.50
Watermelons.....number.			130	23.40
Raisins.....pounds.	10	.60	10	.60
String beans.....barrels.			2	2.00
Evaporated apricots.....pounds.	100	10.00	100	10.00
Blackberries.....quarts.			160	13.44
P. Pork, shoulders.....pounds.	1,689	126.68	900	51.57
Condensed milk.....cans.			3	.50
Graham flour.....barrels.	1	3.50	1	4.50
Potatoes, white.....do.....			76	160.25
Cornmeal.....do.....	1	2.75	1	2.50
Sirup.....gallons.	57	14.25		
N. O. molasses.....do.....	2	.70	4	1.40
White pepper.....pounds.	6	1.50	6	1.50
Royal baking powder.....do.....	16	6.50	16	4.08
Chocolate.....do.....	3	1.05	5	1.75
Dried cherries.....do.....	50	5.50	33	3.30
Farina.....do.....	31	2.79	24	2.00
Lemons.....dozen.	4	.75	8	2.00
Macaroni.....pounds.	130	10.75	124	8.92
Mackerel.....barrels.	1	15.50	5	78.75
Cucumber pickles.....gallons.	12	3.00		
Corn starch.....pounds.	16	1.12	24	1.66
Soda crackers.....do.....	18	1.26	43	3.01
Gelatine.....packages.	6	.85		
Quaker oats.....pounds.	40	2.25	40	2.00
Granulated sugar.....do.....	60	2.70	70	3.50
Sauerkraut.....gallons.	12	3.60		
Nutmegs.....pounds.	1	.75		
Apples.....pecks.	2½	1.10		
Canned pumpkin.....dozen.	1	1.00		
Canned corn.....do.....	1	.90		
Sage.....pounds.	2	.50		
Tapioca.....do.....	8	.66		
Extract of beef.....do.....	1	4.50	1	5.00
Pickles.....barrels.	1	7.50		
Onions.....bushels.	24	18.25	23	40.25
Cabbage.....barrels.	19	31.75		
Sweet potatoes.....do.....	11	20.75		
Milk.....gallons.	2,604	442.68	2,130	314.66
Ground cinnamon.....pounds.	1	.25	1	.25
Red peppers.....number.	25	.30		
Vinegar.....gallons.			237	16.59
Canned peas.....dozen.			11	11.70
Total.....		3,856.14		3,401.19

L³.—Disbursements of the treasurer for the months of January and July, 1895.

PERMANENT IMPROVEMENTS, NEW FENCES, REPAIR OF BRIDGES, PAVING, SEWERAGE, POINTING UP WALLS OF SCOTT AND SHERMAN BUILDINGS, PARTITIONING CERTAIN ROOMS IN KING BUILDING, RESETTING BOILERS IN BOILER HOUSE.

Nature of expenditures.	January.	July.
Services pointing up stonework on Scott and Sherman buildings.....		\$20. 25
Services of laborers, materials purchased for resetting boilers in boiler house.....		527. 69
Materials used in partitioning certain rooms in King Building.....		9. 00
Total.....		556. 94

PURCHASE OF GENERAL SUPPLIES.

Medicines, hospital supplies, trimmings for coffins, stationery, spectacles, purchase and repairs to surgical instruments, and miscellaneous articles for Barnes Hospital.....	\$215. 95	\$206. 21
Steam fittings, hardware, plumbing, and blacksmith's materials.....	84. 07	22. 62
Gas for Home buildings.....	538. 25	158. 00
Paints and oils used in general repairs.....	16. 91	76. 73
Stationery used in governor's and treasurer's office and Home library.....	63. 45	42. 27
Articles for police purposes, Home buildings.....	120. 00	61. 71
Forage, oats and corn.....	121. 63	106. 44
Articles for Home farm.....	6. 18	
Material for making new and repairing old mattresses.....	24. 79	13. 96
Purchase of articles for greenhouse.....	. 78	. 72
Materials used in repairs to officers' quarters.....	10. 31	34. 06
Fuel for the Home.....	589. 11	67. 97
Articles for Home stables.....	9. 25	
Making 97 locker stands for inmates of Home buildings.....	145. 50	
Repairs to electrical alarm at pumping station.....	3. 72	
Grate for Home bakery.....	7. 30	
Materials used in general repairs.....	21. 60	14. 89
Total.....	1, 978. 80	805. 58

RECAPITULATION OF EXPENDITURES.

Purchase of supplies, Abstract A.....	\$1, 978. 80	\$805. 58
Purchase of provisions, Abstract B.....	3, 856. 14	3, 401. 19
Services rendered, Abstract C.....	5, 231. 95	4, 495. 78
Pay of commuters, Abstract D.....	445. 07	455. 00
Permanent improvements, Abstract E.....		556. 94
Total.....	11, 511. 96	9, 714. 49

M.—Field return of the inmates October 15, 1895.

Present for duty:		Present:	
Governor.....	1	Temporarily admitted.....	63
Deputy governor.....	1	Invalided, privates.....	95
Secretary and treasurer.....	1		
Surgeon.....	1	Total.....	635
Hospital steward.....	1	Aggregate.....	639
Sergeants.....	20	Absent:	
Corporals.....	6	On outdoor relief.....	310
Privates.....	234	Insane asylum.....	16
Sick:		With leave, noncommissioned officers...	1
Noncommissioned officers.....	..	With leave, privates.....	42
Privates.....	80	Without leave.....	0
Extra duty:		Suspended.....	5
Noncommissioned officers.....	1	Present and absent:	
Privates.....	135		
		Total.....	1, 009
		Aggregate.....	1, 013
On outdoor relief (beneficiaries).....			310
In insane asylum (inmates).....			16
On furlough (inmates).....			43
On suspension (inmates).....			5
			374

Present, distributed among the buildings as follows:	
Scott Building (with bedroom space of 271,990 cubic feet, 1,554.21 cubic feet per man).....	175
Sherman Building (with bedroom space of 214,664 cubic feet, 2,618 cubic feet per man)	82
Sheridan Building (with bedroom space of 152,058 cubic feet, 1,216.46 cubic feet per man)....	125
King Building (with bedroom space of 106,594 cubic feet, 1,239.465 cubic feet per man).....	86
Anderson Building (with bedroom space of 55,874 cubic feet, 1,506.4 cubic feet per man).....	35
North gatehouse.....	4
Eagle gatehouse.....	1
West gatehouse	1
South gatehouse.....	1
Southeast gatehouse.....	1
Whitney avenue gatehouse.....	1
Married men at old farmhouse.....	2
Married men who sleep outside.....	12
Hospital.....	1.0
Total inmates present.....	635
Total inmates present and absent:	
Permanent inmates present and absent	636
Temporary inmates present and absent.....	63
Beneficiaries receiving outdoor relief.....	310
Total	1,009

N.—Garden account from October 1, 1894, to September 30, 1895, consolidated.

Dr.	
To labor, fertilizers, seeds, tools, fuel, and implements.....	\$3,184.14
Cr.	
By 260 quarts cherries.....	18.20
By 450 pounds grapes.....	13.50
By 96 bushels pears.....	96.00
By 80 cords wood	120.00
By 23,700 plants, trees, and shrubs raised in garden and greenhouse.....	1,475.50
By balance to debit of garden expended in improvement of grounds.....	1,400.94
Total	3,184.14

NOTE.—This department has the care of the ornamentation of the grounds, lawns, flowers, shrubs, trees, and fruit.

O.—Farm account October 1, 1894, to September 30, 1895, consolidated.

Dr.	
To labor, forage, fuel, fertilizers, implements, seeds, and repairs	\$4,936.83
Cr.	
By 159½ bushels beets.....	74.26
By 17,629 heads cabbage	452.53
By 88½ bushels carrots.....	44.97
By 806½ dozen ears corn.....	30.54
By 49½ bushels cucumbers	20.04
By 1,350 pounds horse-radish	54.00
By 288 bushels kale	42.20
By 3,855 heads lettuce.....	39.55
By 18½ bushels okra.....	18.63
By 4,865 bunches onions.....	24.32
By 2,730 bunches parsley	108.10
By 259 bushels parsnips.....	146.50
By 1,182½ bushels potatoes	504.23
By 33 bushels radishes.....	10.95
By 5,155 bunches rhubarb.....	81.76
By 34 bushels salsify.....	25.50
By 103 bushels spinach.....	20.00
By 695 pounds spinach.....	6.95
By 5,158 pounds squash.....	51.58
By 46½ bushels string beans.....	19.82
By 444½ bushels tomatoes.....	139.20
By 571½ bushels turnips.....	111.76
By 235 tons hay.....	2,157.00
Balance to debit of farm	694.75
Total	4,936.83

Estimate of vegetables in the ground on Home farm, September 30, 1895.

300 bushels beets, at 30 cents.....	\$90. 00
30 bushels carrots, at 75 cents.....	22. 50
200 bushels parsnips, at 50 cents.....	100. 00
100 bushels potatoes, at 50 cents.....	50. 00
1,500 pounds horse-radish, at 4 cents.....	60. 00
75 bushels salsify, at 75 cents.....	56. 25
1,500 pounds winter squash, at 1 cent.....	15. 00
Total	393. 75

P.—List of crockeryware used daily in Home mess hall from January 1 to June 30, 1895.

	Plates in use breakfast and dinner.	Soup plates in use.	Total plates in use.	Bowls in use.	Butter plates in use.
Daily average, six months (582).....	582	582	1, 164	582	84
Received from treasurer.....					
Total.....			1, 164	582	84

Broken plates.....	76	Percentage, bowls.....	17. 56
Broken bowls.....	102	Percentage, butter plates.....	13
Broken butter plates.....	11	Total percentage.....	10. 3
Percentage, plates.....	6. 53		

Q.—List of contracts for supplies and services, September 30, 1895.

Telephone service, Chesapeake and Potomac Telephone Company, metallic circuit, per annum.....	\$240. 00
Amicks gas regulators, Peoples' Gas-Saving Association furnishes five regulators and keeps same in proper order; furnishes the necessary burners for a good gas-light service.....per month..	20. 00
Fuel:	
White ash furnace coal.....per ton..	4. 18
White ash stove coal.....do....	4. 75
Cumberland coal.....do....	3. 21
Ice.....per 100 pounds..	. 22½
Forage:	
Oats.....do....	1. 22
Shelled corn.....do....	1. 07
Flour.....per barrel..	4. 14
Beef, etc.:	
Fresh beef.....per pound..	. 0587
Corned beef.....do....	. 02½
Fresh mutton.....do....	. 07½
Veal.....do....	. 07½
Laundry work:	
Per man (the laundried articles for each man per week consist of 1 sheet, 1 pillow case, and 1 complete change of underclothing).....	. 20
Extra washing as follows: Billiard-table covers, table covers.....each..	. 02
Blankets, trousers, men's white caps.....do....	. 05
Men's summer coats.....do....	. 04
Bedspreads, mattress covers.....do....	. 03
Sheets, pillowcases, aprons.....do....	. 01
Roller towels.....per hundred..	. 40
Hand towels.....do....	. 35
Napkins.....do....	. 25
Milk.....per gallon..	. 14½
Butterine.....per pound..	. 11
Groceries:	
Beans.....do....	. 0199
Vinegar.....per gallon..	. 07
Candles.....per pound..	. 07
Salt.....per sack ..	. 87
"A" sugar.....per pound..	. 041
"C" sugar.....do....	. 0347
Pepper.....do....	. 08½
Soap.....do....	. 03½
Sirup.....per gallon..	. 14
Bacon.....per pound..	. 0812
Codfish.....do....	. 04½
Ham.....do....	. 09½

Groceries—Continued.		
Pickled pork shoulders	per pound..	\$0. 0573
Mackerel No. 2, Irish	per barrel..	15. 75
Rice	per pound..	. 0390
Tea, green and black	do.....	. 16
Green coffee	do.....	. 17
Roasted coffee	do.....	. 1873
Mustard (Coleman's)	do.....	. 24½
Cheese	do.....	. 10½
Clothing:		
Black felt hats	each..	. 67½
Dark blue sack coats	do.....	3. 61
Dark blue vests	do.....	1. 20
Sky blue trousers	per pair..	2. 28½
Flannel shirts	each..	. 61½
Canton-flannel drawers	do.....	. 26½
Harvard ties	per pair..	1. 17
Woolen stockings	do.....	. 18
Hand towels	each..	. 17½
Construction of new amusement hall		64, 000. 00
Sale of surplus hay	per ton..	6. 30

R.—List of persons paid for services in more than one capacity September 30, 1895.

No.	Name. .	Services and compensation.
1	Evans, Thomas	\$30 per month as sergeant-major and \$20 per month as clerk.
2	Stauffer, Rudolph	
3	Pownall, Joseph	\$12 per month as floor sergeant, King Building, and \$5 per month for charge of kitchen.
4	Kramer, August	\$15 per month as band leader and \$15 per month as first sergeant, Anderson Building.
5	Hasselfeldt, Charles	\$12 per month as first-class musician and \$8 per month as bugler.
6	Ring, Philip	\$20 per month as clerk and \$5 per month for charge of tower clock.
		\$12 per month as sergeant and chief of Home police and \$5 per month as provost-sergeant.

S.—Statement showing the number of inmates present at the Home October 15, 1895, with length of army service; also the number of pensioners and rates of pension.

ARMY SERVICE.

Length of service.	Num-ber of men.	Length of service.	Num-ber of men.	Length of service.	Num-ber of men.
6 months	1	8 years	13	21 years	64
7 months	2	9 years	14	22 years	41
8 months	3	10 years	9	23 years	39
9 months	2	11 years	10	24 years	28
10 months	1	12 years	12	25 years	28
11 months	2	13 years	18	26 years	17
1 year	18	14 years	9	27 years	9
2 years	19	15 years	16	28 years	6
3 years	33	16 years	16	29 years	1
4 years	7	17 years	11	30 years	2
5 years	32	18 years	23	31 years	3
6 years	11	19 years	32		
7 years	10	20 years	75	Total	635

PENSIONS.

Rate per month.	Num-ber of men.	Rate per month.	Num-ber of men.	Rate per month.	Num-ber of men.
\$6 per month	75	\$15 per month	2	\$24 per month	9
\$8 per month	89	\$16 per month	22	\$30 per month	7
\$10 per month	38	\$17 per month	44		
\$12 per month	189	\$18 per month	2	Total	515
\$12.50 per month	1	\$20 per month	3		
\$14 per month	33	\$22 per month	1		

T.—Value of products of Home farm from October 1, 1894, to September 30, 1895.

Beets, 159½ bushels.....	\$74. 26
Cabbages, 17,629 heads.....	452. 53
Carrots, 88½ bushels.....	46. 97
Corn, 806½ dozen ears.....	39. 54
Cucumbers, 49½ bushels.....	20. 04
Horseradish, 1,350 pounds.....	54. 00
Kale, 288 bushels.....	43. 20
Lettuce, 8,855 heads.....	38. 55
Okra, 18½ bushels.....	18. 63
Onions, 4,865 bunches.....	24. 32
Parsley, 2,730 bunches.....	108. 10
Parsnips, 259 bushels.....	146. 50
Potatoes, 1,182½ bushels.....	596. 23
Radishes, 83 bushels.....	10. 95
Rhubarb, 5,155 bunches.....	81. 76
Salsify, 34 bushels.....	25. 50
Spinach, 103 bushels, \$20.60; and 695 pounds, \$6.95.....	27. 55
Squash, 5,158 pounds.....	51. 58
String beans, 46½ bushels.....	19. 82
Tomatoes, 444½ bushels.....	139. 29
Turnips, 571½ bushels.....	111. 76
Hay, 235 tons.....	2, 157. 00
Total	4, 288. 08

U.—Home hospital, special diet for the week ending September 28, 1895, asked for by the patients or prescribed by the doctor.

Names.	Breakfast.	Dinner.	Supper.
Ward A:			
Harrison		Milk.....	
Carl	2 soft-boiled eggs.....		
Bentson	Dry toast, milk.....	Milk.....	Dry toast, chocolate.
Shook	Peptonized milk, milk toast.	Peptonized milk, milk toast.	Peptonized milk, milk toast.
Rubin	Milk.....	Milk.....	Milk.
Ward B:			
Schmalsinger..	Milk toast, milk.....	Pudding.....	Milk.
Keefer.....	Chicken stew, milk.....	Pudding, milk.....	Chicken stew, milk.
Lamb.....	1 soft-boiled egg, milk.....	Milk.....	1 soft-boiled egg, milk.
Uhlig.....	Chicken stew.....	Chicken stew.....	Chicken stew.
Long	Chicken soup.....	Milk toast, milk.....	Chicken soup.
Coulter.....	Chicken soup, mush and milk.	Milk toast, cornstarch....	2 soft-boiled eggs.
Ward C:			
Gorman	2 soft-boiled eggs.....	Milk.....	2 soft-boiled eggs, milk.
Campbell	Milk.....	Milk.....	Milk.
Donahue	Milk, dry toast.....	Cornstarch, milk.....	Mush and milk, milk.
Ward D:			
Peltzer	2 soft-boiled eggs, milk....	Soup, milk.....	2 soft-boiled eggs, milk.
McLoom.....	Milk.....	Milk.....	Milk.
Furst.....		Milk.....	Milk.
Cunningham ..	Milk.....	Milk.....	Milk.
McHugh	Boiled ham		Oatmeal mush.
Coon.....	Butter toast, milk, fried onions.	Chicken stew, milk.....	Oatmeal mush and milk.
Gorden	Oatmeal mush, milk.....	Milk.....	
Plunkett	Peptonized milk, chicken stew.	Peptonized milk, chicken stew.	Peptonized milk, chicken stew, milk toast.
Schworm	Butter toast, milk.....	Chicken broth	Butter toast, milk.
Ward E:			
Bankhart.....	Butter toast, milk.....	Milk.....	Butter toast, milk.
King		Coffee	Coffee.
Tehany			Milk.
Mahnke		Milk.....	Coffee.
Ward F:			
Bowker.....		Milk.....	Milk.
Rasmussen ..	Milk.....	Milk.....	Milk.
Murphy	Oatmeal mush, milk.....	Milk.....	Oatmeal mush, milk.

Subject to daily changes.

On hand September 22 to September 28, 1895.

On hand September 22:

Kitchen—			
Milk	gallons	15	
Beef, fresh	pounds	120	
Hams	do	50	
Corn	cans	30	
Potatoes	barrel	1	
Eggs	dozen	9	
Soap	pounds	2	
Bread	do	6	
Dining room—			
Cake	sheets	4	
Cheese	pounds	9	
Crackers	do	20	
Butter	do	30	
Bread	do	60	

On hand September 23:

Kitchen—			
Milk	gallons	15	
Beef, fresh	pounds	118	
Butter	do	30	
Apples, evaporated	do	20	
Bread	do	6	
Dining room—			
Bread	do	60	
Mustard	do	6	
Soap	do	2	
Sapolio	pieces	2	
Pearline	packages	2	
Wards, etc.—			
Matches	boxes	12	
Sapolio	pieces	2	
Putz pomade	box	1	

On hand September 24:

Kitchen—			
Milk	gallons	15	
Beef, fresh	pounds	60	
Beef, corn	do	75	
Cabbage	barrel	1	
Eggs	dozen	9	
Onions	bushel	1	
Salt	pounds	10	
Bread	do	4	
Dining room—			
Bread	do	58	
Pickles	gallon	1	
Pears	bushels	1	
Wards, etc.—			
Soap	pieces	4	
Sapolio	do	2	
Beef extract	bottle	1	
Lemons	number	6	

On hand September 25:

Kitchen—			
Milk	gallons	15	
Bacon	pounds	40	
Beef, fresh	do	91	
Macaroni	do	8	
Carrots	bushel	1	
Potatoes	barrel	1	
Bread	pounds	4	

On hand September 25—Continued.

Dining room—			
Bread	pounds	62	
Salt	do	8	
Soap	do	2	
Wards, etc.—			
Matches	boxes	12	

On hand September 26:

Kitchen—			
Milk	gallons	15	
Sausage meat	pounds	50	
Pork, fresh	do	55	
Head-cheese	do	18	
Eggs	dozen	10	
Bread	pounds	4	
Dining room—			
Bread	do	54	
Crackers	box	1	
Soap	pounds	2	
Ward, etc.—			
Beef extract	bottles	2	
Lemons	number	3	
Blacking, shoe	box	1	

On hand September 27:

Kitchen—			
Milk	gallons	15	
Beef, fresh	pounds	82	
Codfish, salt	do	35	
Oysters	gallons	10	
Tomatoes	pounds	18	
Eggs	dozen	9	
Bread	pounds	6	
Dining room—			
Bread	do	60	
Pearline	package	1	
Sapolio	piece	1	

On hand September 28:

Kitchen—			
Milk	gallons	15	
Beef, fresh	pounds	172	
Potatoes	barrel	1	
Vermicelli	pound	1	
Tomatoes	cans	3	
Onions	bushel	1	
Tomatoes, fresh	boxes	2	
Eggs	dozen	9	
Bread	pounds	4	
Dining room—			
Bread	do	66	
Butter	do	30	
Sapolio	piece	1	
Pearline	package	1	
Soap	pounds	2	
Wards, etc.—			
Beef extract	bottle	1	
Lemons	number	3	
Matches	boxes	12	
Putz pomade	do	1	
Soap	pounds	6	

Received, issued, and remaining on hand from September 30 to September 30, 1895.

Received:

Beef, fresh	pounds	832	
Beef, corned	do	150	
Sausages and sausage meat	do	75	
Pork, fresh	do	55	
Eggs	dozen	60	
Chickens	number	20	
Oysters	gallons	10	
Sugar	pounds	200	
Coffee	do	100	
Tea	do	10	
Beans	do	50	
Rice	do	25	
Flour	do	50	
Butter	do	90	
Salt	do	30	
Soap	do	60	
Bread	do	580	
Cake, coffee	sheets	7½	

Received:

Milk	gallons	150	
Potatoes	bushels	20	
Cabbage	barrels	1	
Pears	bushels	1½	
Carrots	do	2	
On hand October 1, 1895:			
Beef, fresh	pounds	54	
Eggs	dozen	24	
Chickens	number	3	
Sugar	pounds	40	
Coffee	do	25	
Beans	do	20	
Rice	do	10	
Flour	do	25	
Soap	do	60	
Butter	do	30	
Bread	do	20	
Potatoes	bushels	17	

Requisition for stores and supplies for use of hospital during September, 1895.

Apples, evaporated	pounds..	50	Ham	pounds..	250
Barley	do....	4	Harness dressing.....	cans..	1
Baking powder	do....	2	Lard	pounds..	5
Beer, Pabst.....	dozen..	4	Lemons, fresh.....	dozen..	6
Blacking, shoe.....	boxes..	12	Macaroni	pounds..	48
Beans, lima	cans..	12	Matches, safety.....	gross..	1½
Beans, string	do....	12	Oats, rolled.....	pounds..	30
Cheese.....	pounds..	60	Oysters	gallons..	20
Cornstarch	do....	12	Onions	bushels..	6
Corn, green.....	cans..	60	Pork, fresh	pounds..	250
Corn meal	pounds..	25	Pearline	packages..	48
Chicken	do....	50	Putz pomade.....	boxes..	12
Chocolate.....	do....	4	Peaches, dried.....	pounds..	50
Crackers.....	do....	50	Raisins	do....	10
Currants.....	do....	10	Sausages, assorted.....	do....	150
Codfish, salt	do....	75	Sapolio	cakes..	24
Dublin stout	dozen..	2	Sugar, granulated	pounds..	60
Eggs	do....	250	Tomatoes, 3-pound cans.....	dozen..	8
Farina.....	pounds..	24	Tongue, rolled.....	cans..	4
Fish, fresh.....	do....	180	Vermicelli	pounds..	12
Gelatin.....	packages..	6	Worcester sauce.....	pints..	2
Grapes	pounds..	200			

Full diet for the week ended September 28, 1895.

Sunday.—Breakfast: Boiled ham, fried or baked potatoes, butter, bread, coffee. Dinner: Roast beef, gravy, mashed potatoes, stewed green corn, bread pudding, bread, coffee. Supper: Cake, cheese and crackers, butter, bread, coffee.

Monday.—Breakfast: Irish stew, butter, bread, coffee. Dinner: Soup, stewed beef, gravy, potatoes, bread duff, butter, bread. Supper: Cold roast beef, stewed fruit, butter, bread, tea.

Tuesday.—Breakfast: Meat hash, butter, bread, coffee. Dinner: Fresh corn beef, cabbage, potatoes, pickled cucumbers, bread, coffee. Supper: Cold corn beef, potato salad, butter, bread, tea.

Wednesday.—Breakfast: Fried bacon, potatoes, butter, bread, coffee. Dinner: Soup, roast beef, gravy, stewed carrots, potatoes, butter, bread. Supper: Macaroni and cheese, butter, bread, tea.

Thursday.—Breakfast: Fried sausage-meat cakes, potatoes, butter, bread, coffee. Dinner: Roast pork, onion gravy, Boston baked beans, pickled cucumbers, bread, coffee. Supper: Head-cheese, butter, bread, tea.

Friday.—Breakfast: Codfish hash, butter, bread, coffee. Dinner: Stewed oysters, cold roast beef (sliced), mashed potatoes, butter, bread. Supper: Stewed tomatoes, butter, bread, tea.

Saturday.—Breakfast: Beef stew, butter, bread, coffee. Dinner: Soup, roast beef, gravy, potatoes, macaroni, butter, bread. Supper: Cold roast beef, butter, bread, tea.

HOSPITAL MESS.

Ration return for ten days, from the 21st to the 30th of September, 1895.

Required:		
Sugar	pounds..	200
Coffee	do....	100
Tea.....	do....	10
Beans	do....	50
Rice.....	do....	25
Flour.....	do....	50
Soap.....	do....	60
Salt.....	do....	30
Butter.....	do....	90
Clinical assistant		1
Hospital matron.....		1
Employees.....		29
Patients		74
Total		105

V.—List of medicines on hand September 30, 1895, and six months' supply received October 5, 1895, at hospital.

Aggregate number present (all invalids).....	676
Average in hospital.....	76
Average at sick call.....	6

Articles.	On hand.	Re- ceived.	Articles.	On hand.	Re- ceived.
Acacia, gum.....pounds..	1		Eucalyptol.....ounces..	1	1
Acacia, powdered.....do..	5	5	Extract:		
Acetanilid.....do.....	3		Belladonna.....do.....	1	
Acid:			Buchu, fluid.....do.....	16	
Acetic.....do.....	3		Cactus, fluid.....pounds..	1	
Benzoic.....ounces.....	4		Cascara, aro., fluid.....do..	1	1
Boracic.....pounds.....	1	2	Cascara sag., fluid.....do..	2	2
Carbolic, pure.....do.....	3		Convallaria, fluid.....do..	1	1
Carbolic, common.....do..	48		Corn silk, fluid.....do.....	1	
Citric.....do.....	1		Dog grass, fluid.....do.....	1	
Gallo.....ounces.....	4		Ergot, fluid.....do.....	1	
Hydrocyanic, dil.....do..	4		Ginger, fluid.....do.....	1	
Hydrochloric.....pounds..	1	1	Grindelia, fluid.....do.....	2	
Nitric, C. P.....ounces..	6	16	Guarana, fluid.....do.....	1	
Nitric, commercial.pounds..	4		Hydrastis, fluid.....do.....	1	
Oleic.....do.....	1		Ipecac. fluid.....do.....	1	
Oxalic.....do.....	1	2	Licorice.....do.....	2	5
Phosphoric, dil.....ounces..	8		Licorice, fluid.....do.....	1	
Salicylic.....do.....	16		Licorice, powdered.....do..	3	
Sulphuric, C. P.....do.....	16		Nux vomica.....ounces..	2	
Tartaric.....pounds.....	4		Opium, aq.....do.....	1	
Tannic.....ounces.....	12		Physostigma.....do.....	1	
Aconite root, powdered.pounds..		1	Quebracho, fluid...pounds..	1	
Alcohol.....gallons.....	1	16	Sarsaparilla, fluid.....do..	1	
Aloes.....ounces.....	3		Senega, fluid.....do.....	2	
Ammoniac, gum.....do.....	12		Spigella, fluid.....do.....	1	
Ammonia:			Stramonium.....do.....	1	
Aromatic spirits.....do.....	24		Taraxacum, fluid.....do..	3	
Bromide.....do.....	18		Uva ursi, fluid.....do.....	1	1
Carbonate.....do.....	24		Flaxseed.....do.....	2	
Chloride.....do.....	24		Flaxseed meal.....do.....	10	29
Salicylate.....do.....	38		Formalin.....do.....	1	3
Valerianate.....do.....	1		Gentian, powdered.....do..	1	
Water of.....pounds.....	3	10	Glycerin.....do.....	4	5
Amyl:			Glycozone.....bottles..	9	
Nitrite.....ounces.....	3		Glycyrrhiza, comp. powdered,		
Nitrite, pearls.....dozen..	1		pounds.....	1	2
Antikamnia.....ounces.....	3	3	Guaiac, resin.....pounds..	1	
Antipyrine.....do.....	6		Hydrogen, peroxide.....do..	7	12
Aristol.....do.....	1		Hypnal.....ounces.....	2	
Arnica flowers.....pounds..	2		Iodine.....do.....	2	
Arsenite of pot. sol.....do..	1	1	Iodoform.....pounds.....	1	3
Atropia, sulphate.....ounces..	1		Ipecac and opium, powdered,		
Bark, wild cherry, powdered,			pounds.....	1	
pounds.....	10		Iron:		
Bismuth:			Citrate and quinia..ounces..	6	
Subnitrate.....pounds.....	5		Dialysed.....pounds.....	1	
Subcarbonate.....do.....	1		Pyrophosphate.....do.....	1	
Bloodroot, powdered.....do..	1		Reduced.....ounces.....	2	
Bromine.....ounces.....	4		Syrup, iodide of.....pounds..	1	1
Calcium, phosph.precip.pounds..	2		Tersulphate, sol.....do.....	16	
Campho-phenique.....bottles..	4		Lanolin.....do.....	2	
Camphor, gum.....pounds.....	1	1	Lactopeptine.....ounces.....	1	
Capsules.....boxes.....	10		Lead, acetate.....pounds..	2	
Cardamon seed, powdered..lbs..	2		Licorice root, powdered.....do..	1	
Catechu.....do.....	2		Listerine.....bottles.....	1	2
Cerate:			Lithia, carbonate.....ounces..	2	
Cantharides.....do.....	2		Lycopodium.....do.....	8	
Resin.....do.....	1		Magnesia:		
Chloralamid.....ounces.....	1	3	Carbonate.....pounds.....	2	
Chloral hydrate.....do.....	8	8	Sulphate.....do.....	3	5
Chloranodyne.....do.....	3	6	Mercury:		
Chloroform.....pounds.....	1	3	Bichloride.....do.....	1	
Chrysarobin.....ounces.....	1		Metallic.....do.....	1	
Cinchona.....pounds.....	5		Mild chloride.....do.....	1	
Cocaine, hydrochlorate.....do..	1	1	Ointment, nitrate.....do..	2	
Cocaine tablets.....bottles..	1		Oleate.....do.....	1	
Colchicum seed.....pounds.....	1		Pill mass.....do.....	1	
Collodion, flexible.....ounces..	2	8	Red iodide.....ounces.....	2	
Copper, sulphate.....do.....	4		Red oxide.....do.....	3	
Creosote, beechwood.....pounds..	1	3	With chalk.....do.....	16	
Digitalis leaves.....do.....	1		Morphia:		
Diuretic.....ounces.....	1		Acetate.....do.....	1	
Elixir purgans.....bottles.....	9		Sulphate.....do.....	1	
Ether:			Naphthalin.....pounds.....	1	
Fortior.....pounds.....	4	10	Oil:		
Spirits, compound.....do.....	1	2	Anise.....ounces.....	1	
Spirits, nitrous.....do.....	3		Cassia.....do.....	4	

V.—List of medicines on hand September 30, 1895, and six months' supply received October 5, 1895, at hospital—Continued.

Articles.	On hand.	Re- ceived.	Articles.	On hand.	Re- ceived.
Oil—Continued.			Silver, nitrate .....do....	1	.....
Castor .....gallons..	4	.....	Silver, nitrate, fused.....do....	1	.....
Cedar .....ounces..	4	.....	Snakeroot.....pounds..	1	.....
Cloves .....do....	1	.....	Soap:		
Cod liver.....gallons..	6	.....	Castile .....cakes..	12	24
Cotton seed .....do....	2	2	Castile, green.....bars..	.....	4
Croton .....ounces..	2	.....	Green.....pounds..	1	5
Hemlock.....do....	6	.....	Soda:		
Lemon.....do....	2	6	Benzoate.....ounces..	.....	8
Malefern.....do....	1	.....	Bicarbonate.....pounds..	5	.....
Orange .....do....	2	4	Borate.....do....	5	.....
Peppermint.....do....	8	.....	Bromide .....do....	4	.....
Rosemary.....do....	3	.....	Chlorinated, sol....bottles..	9	.....
Spearmint .....do....	4	4	Phosphate.....pounds..	2	.....
Turpentine .....gallons..	.....	50	Salicylate.....do....	5	.....
Wintergreen.....ounces..	2	.....	Sulphate.....do....	16	.....
Opium, powdered .....pounds..	1	.....	Sulphite.....do....	1	.....
Papain .....ounces..	1	.....	Stramonium leaves.....do....	.....	2
Paraffin.....do....	4	.....	Strychnia, sulphate....ounces..	1	.....
Pepsin.....do....	1	4	Sugar of milk.....do....	8	.....
Peru, balsam.....do....	16	.....	Sulfonal .....do....	3	8
Petrolatum .....pounds..	12	20	Sulphur:		
Phenacetin.....ounces..	1	1	Roll.....pounds..	20	.....
Pills:			Washed.....do....	2	.....
Anticonstipation..number..	2,000	.....	Suppositories, hollow....gross..	1	1
Asafetida.....do....	300	.....	Tablets:		
Camphor and opium ..do....	500	.....	Calomel and sugar..number..	.....	5,000
Cathartic, compound..do....	500	.....	Heart tonic, DaCosta's,		
Dover's powder.....do....	100	.....	number.....	50	1,000
Manganese binoxide..do....	200	.....	Morphia, sulphate, $\frac{1}{2}$ gr.,		
Mass hydrarg.....do....	4,000	.....	number.....	.....	500
Quinia, sulphate, 2 grs.do....	100	3,000	Morphia, sulphate, $\frac{1}{4}$ gr.,		
Quinia, sulphate, 3 grs.do....	.....	5,000	number.....	50	500
Potassa:			Tartar emetic.....ounces..	1	.....
Acetate.....pounds..	2	.....	Tar, wood.....pounds..	2	.....
Caustic.....ounces..	1	.....	Therapol.....ounces..	2	12
Chlorate.....pounds..	4	.....	Tincture:		
Citrate.....ounces..	6	.....	Belladonna .....do....	48	.....
Cyanide.....do....	1	.....	Cantharides .....do....	1	.....
Bicarbonate.....do....	4	.....	Chloride of iron.....do....	30	.....
Bichromate.....pounds..	2	.....	Cimicifuga.....do....	12	.....
Bitartrate.....do....	3	.....	Guaiac, ammoniated..do....	12	.....
Bromide .....do....	$\frac{1}{2}$	2	Opium .....do....	16	.....
Iodide .....do....	3	10	Opium, camphorated,		
Nitrate .....do....	1	2	ounces.....	16	.....
Permanganate.....do....	1	.....	Sanguinaria.....ounces..	16	.....
Plaster:			Serpentaria.....do....	16	.....
Adhesive .....spools..	18	12	Veratrum, viride.....do....	4	.....
Belladonna .....yards..	2	10	Trikresol.....pounds..	2	3
Lead .....pounds..	3	.....	Wax:		
Porous .....number..	200	300	White .....do....	1	.....
Mustard.....yards..	1	5	Yellow.....do....	5	10
Plaster paris.....pounds..	5	.....	Whisky, rye.....gallons..	.....	5
Quinia, sulphate.....ounces..	1	20	Wine, sherry.....do....	.....	2
Resorcin .....do....	1	.....	Wine, port.....do....	.....	1
Rhubarb:			Zinc:		
Powdered.....do....	16	.....	Acetate.....ounces..	8	.....
Powder, compound....do....	8	.....	Chlorinated, sol....bottle..	1	.....
Root.....do....	4	.....	Oleate.....pounds..	$\frac{1}{2}$	.....
Rochelle salts.....pounds..	8	5	Oxide.....do....	$\frac{1}{2}$	.....
Salicin .....ounces..	2	.....	Sulphate.....do....	1	.....
Santonin.....do....	2	.....		

**REPORT OF BOARD OF VISITORS TO WEST POINT
MILITARY ACADEMY.**

BOARD OF VISITORS.

Hon. JOSEPH WHEELER (*President*).
Gen. THOMAS J. WOOD (*Vice-President*).
Hon. SIGOURNEY BUTLER (*Secretary*).
Capt. FRANK P. BLAIR.
Col. PETER HAIRSTON.
Dr. E. G. JANEWAY.
Hon. SETH L. MILLIKEN.
RICHARD M. VENABLE, Esq.
Hon. WM. F. VILAS.
Hon. JOS. E. WASHINGTON.
Maj. J. M. WRIGHT.

REPORT
OF THE
BOARD OF VISITORS
TO THE
UNITED STATES MILITARY ACADEMY
FOR THE YEAR 1895.

The undersigned, the Board of Visitors to the Military Academy at West Point, for the examination held in June, 1895, respectfully present herewith the report of their investigations regarding the character and condition of the institution.

The law under which they were appointed is as follows:

SEC. 1327. There shall be appointed every year, in the following manner, a Board of Visitors to attend the annual examination of the Academy. Seven persons shall be appointed by the President, and two Senators and three Members of the House of Representatives shall be designated as visitors by the Vice-President or the President pro tempore of the Senate and the Speaker of the House of Representatives, respectively, at the session of Congress next preceding such examination.

SEC. 1328. It shall be the duty of the Board of Visitors to inquire into the actual state of the discipline, instruction, police administration, fiscal affairs, and other concerns of the Academy. The visitors appointed by the President shall report thereon to the Secretary of War, for the information of Congress, at the commencement of the session next succeeding such examination, and the Senators and Representatives designated as visitors shall report to Congress, within twenty days after the meeting of the session next succeeding the time of their appointment, their action as such visitors, with their views and recommendations concerning the Academy.

The persons appointed to constitute the Board were as follows:

APPOINTED BY THE PRESIDENT OF THE UNITED STATES.

1. Capt. FRANK P. BLAIR	Chicago, Ill.
2. Gen. THOMAS J. WOOD	Dayton, Ohio.
3. Maj. RICHARD M. VENABLE	Baltimore, Md.
4. Dr. E. G. JANEWAY	New York, N. Y.
5. SIGOURNEY BUTLER, Esq.	Boston, Mass.
6. Maj. J. M. WRIGHT	Washington, D. C.
7. Col. PETER HAIRSTON	Martinsville, Va

APPOINTED BY THE PRESIDENT OF THE SENATE.

- 8. Hon. WILLIAM F. VILAS..... Madison, Wis.
- 9. Hon. WILLIAM P. FRYE Lewiston, Me.

APPOINTED BY THE SPEAKER OF THE HOUSE OF REPRESENTATIVES.

- 10. Hon. JOSEPH WHEELER Wheeler, Ala.
- 11. Hon. JOSEPH E. WASHINGTON Cedar Hill, Tenn.
- 12. Hon. SETH L. MILLIKEN Belfast, Me.

The Board met on June 1, 1895, at 10.30 a. m., all the members being present, except Hon. William P. Frye, United States Senator.

The Board organized as follows:

- General WHEELER President.
- General WOOD..... Vice-President.
- Mr. BUTLER Secretary.

At 4.20 p. m. a salute of seventeen guns was given to the Board and the Superintendent, Col. O. H. Ernst, Corps of Engineers, U. S. A., with the members of the academic board, the associate professors, and the military staff, called officially upon the Board of Visitors and conducted them to a review of the Corps of Cadets given in their honor.

On June 6 the Hon. Daniel S. Lamont, Secretary of War, visited West Point officially and reviewed the Corps of Cadets.

On June 12 the graduating exercises were held, attended by the entire Board, except Senator William P. Frye. The Hon. Seth L. Milliken delivered an eloquent and interesting address to the graduating class.

The Board instructed the committee on discipline and instruction to remain at or return to the Post and visit and inspect officially the encampment of the Corps of Cadets. This duty was performed by Messrs. Wright and Butler, of the committee.

The following committees were appointed by the president of the Board:

Appointments and examinations.—Messrs. Washington, Blair, and Venable.

Discipline and instruction.—Messrs. Wright, Venable, and Butler.

Armament and equipment.—Messrs. Blair, Washington, and Milliken.

Buildings, grounds, and lights.—Messrs. Milliken, Washington, and Janeway.

Supplies and expenditures for cadets.—Messrs. Hairston, Blair, and Wright.

Fiscal affairs.—Messrs. Vilas, Butler, and Milliken.

Hygiene and athletics.—Messrs. Janeway, Hairston, and Wright.

Miscellaneous.—Messrs. Venable, Vilas, and Janeway.

The examinations were conducted as set out in the following order:

ORDERS, }
No. 67. }

HEADQUARTERS UNITED STATES MILITARY ACADEMY,
West Point, N. Y., May 14, 1895.

I. The annual examination will begin on Saturday, the 1st proximo, and continue daily, Sundays excepted, from 9 o'clock a. m. till 1 o'clock p. m., and from 2.30 o'clock p. m. till 4.30 o'clock p. m., until finished.

II. The Academic Board will be divided into two committees:

The first committee will be composed of the professor of natural and experimental philosophy, the professor of chemistry, mineralogy, and geology; the professor of history, geography, and ethics; the professor of civil and military engineering, and the instructor of ordnance and gunnery.

The second committee will be composed of the professor of drawing, the professor of mathematics, the professor of law, the commandant of cadets, the professor of modern languages, and the instructor of practical military engineering.

The first committee will sit in room No. 202, Academy Building, and examine orally (1) the second class in chemistry, mineralogy, and geology; (2) the first class in engineering; (3) the first class in ordnance and gunnery; (4) the second class in philosophy.

The second committee will sit in room No. 201, Academy building, and examine orally (1) the third class in Spanish; (2) the first class in law; (3) the third class in mathematics; (4) the fourth class in French; (5) the first class in Spanish; by inspection of marks and practical work, (6) the first class in practical military engineering; by written examination, the first class in Spanish, at 8 a. m., June 1; the fourth class in mathematics, at 8 a. m., June 1; the third class in Spanish, at 8 a. m., June 3; the fourth class in French, at 8 a. m., June 3, and by inspection of marks and drawings, the second and third classes in drawing.

In all the classes the oral examinations will begin with the lowest sections, and the examinations will be so conducted as not to interfere with the usual hours for meals of cadets.

The written examinations of the first and third classes will be conducted in room No. 101, and of the fourth class in room No. 102, academy building.

The examination of the first class in practical military engineering will be conducted in Fort Clinton.

The Superintendent will preside in either committee in which he may be present.

The commandant of cadets is excused from attendance at the sittings of the second committee at such times as his duties as commandant of cadets require his presence at his office or elsewhere.

III. As each committee shall complete its labors of examination, its presiding officer will report the fact to these headquarters.

Either committee may in its discretion extend its labors not to exceed one hour each day, provided this does not interfere with any of the military exercises directed in Paragraph VI of this order.

IV. First Lieut. Samuel E. Allen, Fifth Artillery, and First Lieut. Daniel B. Devore, Twenty-third Infantry, are appointed the secretaries of the first and second committees, respectively. The record of each committee will be so kept as to show clearly the length of time occupied in examination by each department of instruction.

At the close of each day's proceedings, the secretaries will report to the adjutant of the Academy the progress of the examination, and they will transmit to the secretary of the academic board the records of the proceedings of the committees as soon as they are completed.

V. The instructors will report daily to the heads of their respective departments, and keep themselves informed as to the times when their services will be required.

VI. The following military exercises will take place during the examination:

Infantry.—Escort of the colors and review, June 1; school of the battalion, June 7; drill in extended order, June 11.

Artillery.—Heavy-artillery drill (seacoast guns), June 6; school of the battery (field artillery), June 8; heavy-artillery drill (siege mortars), 8 p. m., June 10.

Cavalry.—School of the troop, June 3; school of the trooper, June 5.

Practical military engineering.—Military bridge construction (pontoon bridge), June 4.

Small arms.—Use of the sword and bayonet, military gymnastics, 8 p. m., June 7.

This order of exercises may be changed on account of the weather or for other causes.

VII. The members of the first class will be graduated June 12, 1895.

By order of Colonel Ernst.

J. M. CARSON, Jr.,
First Lieutenant, Fifth Cavalry, Adjutant.

The members of the Board made as thorough inspection and examination of the Academy and Post and everything relating thereto as their twelve days' stay permitted. At all times they received from the Superintendent and all the officers every mark of courtesy and attention.

The Board joins with its predecessors in testifying to the great worth of the United States Military Academy, and in reporting its heartiest approval of the discipline, instruction, and general administration of all the affairs of the Academy.

The recommendations of the Board that follow summarize, in many instances, the reports of the various committees, which set out in full the reasons for the suggestions offered.

THE RESERVATION.

The grounds connected with the Military Academy consist of 2,500 acres. A portion of this, consisting of 1,460 acres, was settled by Charles Congrieve, who, on May 17, 1723, received a royal patent for the land. Twenty-four years later 332 acres were patented to John Moore.

During the Revolutionary war West Point became a military post, and on July 31, 1786, the Secretary of War, General Knox, in his report to Congress, spoke of it as of the most decisive importance to the defense of the Hudson River, and on September 10, 1790, both of the above-mentioned tracts, consisting of 1,795 acres, were deeded to the United States. The balance of the tract now owned was subsequently purchased by the Government.

THE WATER SUPPLY.

To this reservation should be added certain tracts of wild back land to complete the control of the sources of the water supply of the Post. These sources are in an uninhabitable, mountainous region, a portion of which is not owned by the Government, but can be obtained by purchase or condemnation proceedings more cheaply now, because the land has been in no way improved. The Board therefore suggests to Congress and to succeeding boards that it would be eminently wise to take measures looking to such purchase or condemnation at the earliest period possible.

The new reservoir is progressing satisfactorily in its construction, and when finished will add materially to the health and comfort of the Post.

NEW ACADEMY BUILDING.

The new Academy building is practically finished and gives great satisfaction. Appropriation should be made to complete the sidewalks and approaches thereto.

HYGIENE AND ATHLETICS.

The Board adopts the report of the committee and recommends appropriations for the following purposes: An operating room for the Cadet Hospital; new board flooring for the Cadet Hospital; siphon closets for both hospitals; new flooring for operating room; new tiled floor with drainage in water-closets for enlisted men's hospital; filtration of all water of the Post, in accordance with Captain Lusk's communication; the employment of a veterinary surgeon, when necessary, to inspect, under the direction of the Post surgeon, the cows furnishing milk consumed at the Post.

The Board further recommends that the Log Town buildings be torn down as soon as possible; that, when possible, appropriation be made to improve the barracks of enlisted men and the sanitary condition of the same, to improve the guardhouse for enlisted men, and to improve the sanitary condition of the bakery.

The Board also recommends that the game of football be continued as at present regulated.

FISCAL AFFAIRS.

The report of this committee contains much valuable data, showing the cost of the Academy, directly and indirectly. The total direct appropriation for the Academy for the year ending June, 1895, was:

For the payment of the instructional force	\$53, 226. 70
For pay of cadets.....	167, 000. 00
For the band and field music.....	12, 497. 78
Total	232, 723. 78
For current and ordinary expenses, regular repairs, improvements, etc....	175, 231. 30
Total	407, 955. 08
Of which amount there had not been disbursed to August 31, 1895.....	20, 780. 54
Total disbursed to August 31, 1895.....	387, 174. 54

In addition, the Paymaster-General had paid from the army appropriation, as pay of officers and men at the Academy or Post, \$198,754.91; but it must be borne in mind that almost all of this \$198,754.91 is not chargeable properly to the Academy, but would be incurred if West Point were a Post without any Academy. It includes the pay of officers and men who, if not stationed here, would be stationed elsewhere under practically the same pay.

The Board supplements the committee's approval of Captain Spurgin's services as treasurer of the Academy and quartermaster and commissary of cadets. Captain Spurgin's system is shown in the report in detail, and it is certainly admirable.

SUPPLIES AND EXPENDITURES.

Here again Captain Spurgin deserves praise. The laundry and commissary are well run. The cadets are well fed, at the surprisingly low cost to them of about 50 cents apiece a day.

This committee recommends that the cold-storage room be enlarged and furnished with better cooling facilities. The Board approves the recommendation.

Further, the Board requests and urges the retention of Captain Spurgin at his present post.

ARMAMENT AND EQUIPMENT.

The Board recommends that the suggestions of the committee as set out in its report be followed:

MODELS, SAMPLE ORDNANCE, ETC.

To continue the construction of models; of work in the museum; of the purchase of sample foreign small arms and rapid-fire guns. To construct a butt to catch heavy projectiles, and platforms for the heavy ordnance.

FIFTY MORE HORSES FOR MOUNTED SERVICE.

Also, to buy 50 additional horses for use in cavalry or artillery drill. Now the horses that are used for cavalry are also used for light artillery drill. Obviously they are spoiled for either drill. There should be one detail of horses for cavalry drill and another for artillery. The propriety of this expenditure needs no fortifying argument.

EXTRA-DUTY PAY TO CAVALRYMEN.

Also, to pay extra-duty pay to the 28 enlisted men of the cavalry detachment while serving as artillery drivers. Apparently this was omitted from the last appropriation bill through an oversight.

INCREASE OF THE BAND.

Also, to increase the band from 24 to 40 pieces, as it was prior to 1874. This recommendation has been made frequently, and we join preceding boards in urging the increase.

BUILDINGS, GROUNDS, AND LIGHTS.

The committee and Board having carefully inspected the main buildings, requested the Superintendent to submit in writing such recommendations as he desired to make, which are shown in the report of the committee.

The expense of carrying out all the recommendations of the Superintendent being greater than perhaps could be appropriated for at this time, the committee has selected and the Board specially recommends, as being most urgent and requiring immediate action, the following:

The construction of the filter house and keeper's dwelling near the new reservoir, estimated cost to be submitted to Congress later.

The guardhouse and gate near the south boundary.....	\$10,000
The reconstruction of the interior of the library building.....	50,000
Three sets of officers' quarters.....	30,000
Porch for cavalry barracks.....	4,200
Sidewalks and approaches for new Academy building.....	5,000

All of these the Board deems of the highest importance.

The Board's attention was called to the question of the furnishing of the Superintendent's house, where the receiving and entertaining of all persons visiting the Post officially must be held. The Board recommends that \$500 be appropriated yearly for furnishing and keeping in good condition the furniture of the quarters of the Superintendent.

MISCELLANEOUS.

SENIOR INSTRUCTOR OF ORDNANCE, ETC.

The Board recommends that the senior instructor of ordnance and gunnery receive the pay of a captain mounted, thus placing him on an equality with senior instructors in other departments.

THE MASTER OF THE SWORD.

The Board recognizes the splendid work done by Mr. Koehler, the master of the sword, and recommends that the suggestion of the Superintendent and of previous Boards be followed—that the master of the sword, while holding that appointment, shall have the local rank, pay and allowances of a first lieutenant of infantry.

PAY OF BAND LEADER.

The Board recommends that the band leader receive the pay and allowances of a second lieutenant of infantry while holding his appointment.

ENCYCLOPEDIAS IN BARRACKS.

The Board is impressed with the great advantage it would be to the cadets to have easy and frequent access to a first-class encyclopedia, and they recommend that an appropriation be made to furnish each hall in the cadet barracks with the latest and most complete encyclopedia.

DISCIPLINE AND INSTRUCTION.

The Board took great pains to make investigation regarding the standard of honor maintained by the cadets, and are gratified to find that it is of a very high order.

The Board gave much attention to the various courses of instruction, and believes generally that the subjects are well chosen and well taught, and that the results attained are most satisfactory. It accepts, however, the recommendations of the committee on discipline and instruction that no changes in the curriculum be made pending the raising of the standard of admission.

APPOINTMENTS AND EXAMINATIONS.

The Board renews the recommendations of previous boards, and urges upon Congress the passage of an act which will permit of the appointment of the following number of cadets: Twenty for the President, one for each Senator, one for each Representative or Delegate. The total would thus be increased from 371, as now authorized, to 469. The average maximum strength of the corps now is 296; in that proportion the average maximum strength of the increased corps would be 377. There is ample room for this increase. The plant is there in full running order, and can handle 400 as easily as 300. There would be little extra cost except the pay of the extra cadets.

The Board calls especial attention to the communication of the Superintendent, of June 12, 1895 (which follows this report and is marked Appendix A), for a comprehensive statement of the added cost of such an increase of cadets.

PLACE OF HOLDING EXAMINATIONS.

The Board recommends that the system of holding examinations for admission at various points be continued for a time, in order to test it sufficiently.

STANDARD OF ADMISSION.

The Board lays the utmost stress on the report of the committee on appointments and examinations which favors the raising of the standard of admission. It can not urge too strenuously this all-important change.

The Board was furnished by the Secretary of War with very valuable data relating to the military schools of Europe. All this is published with this report (being marked Appendix B). Furthermore, the Board was furnished with the copy of a paper by Lieutenant Willcox, Second Artillery, U. S. A., which contains so many valuable facts bearing on this point that the Board has printed long extracts therefrom, and has added the same to this report (being marked Appendix C).

The Board makes the following recommendation: That Congress pass an act repealing the present law relating to the subjects of examination for admission to the Military Academy, viz, section 1319 of the Revised Statutes, and in place thereof enact the following:

SEC. 1319. Appointees to the Academy shall be examined under such regulations relating to time, manner, place, and subjects of study as may be prescribed from time to time by the Secretary of War.

As the Board gave much of its time to this subject, it submits the following statement of its views:

The requirements for admission to the United States Military Academy are fixed by statute. In 1812 an act of Congress provided that candidates, in order to be admitted, must be "well versed in reading, writing, and arithmetic." To these requisites an act, passed in 1866, added English grammar, United States history, and general geography.

To test the proficiency of the candidate, preliminary examinations are held on these subjects. Prior to 1870 these examinations were oral, but since that time they have been written.

There are many considerations which constrain the Board of Visitors to believe that both the standard of admission and the method of fixing it should be changed. The standard should be raised, and some method of regulating it other than by act of Congress should be adopted.

The considerations which lead to the conclusion that the standard should be raised are quite numerous, and we need enlarge only on a few of them.

The prime object of the instruction at West Point is to produce professional soldiers. The nature and extent of this education are to be determined by the duties imposed on officers in war and peace. The armies of the United States have come in conflict to a very limited extent with the disciplined armies of foreign countries, officered by professionally trained soldiers. In no case has there been such a conflict with an army officered, disciplined, and equipped as the present armies of Europe are. Fortunately the remoteness of our situation relieves us from the burden of maintaining an army equal, on a sudden emergency, to such a conflict. What we have wisely attempted to do has been to maintain a small army and educate a relatively small number of officers, with the design of extending our military establishment when the necessity arises. The consequence has been and must be that the officers of this small army may, at a moment's notice, become the general, field, and staff officers of large armies.

Their training must to a considerable degree be determined by this possibility. It should at least be equal as far as practicable to that of the officers of the best European armies.

War has constantly tended to become a more highly scientific profession. Nearly all of the inventions, discoveries, and scientific knowledge of the world are appropriated and used by the soldier. He must deal with the old problems of tactics, strategy, supplies, transportation, and communication under novel and changing conditions. He must deal with the problems of fortification, arms, and ammunition under still more novel and changing conditions.

If four years of instruction to one well versed in reading, writing, and arithmetic were sufficient in 1812 to train an officer, the presumption is that they are now insufficient.

It is to be borne in mind that the standard of education in the United States was comparatively low in 1812, when the requisites of admission to the Academy were fixed, and this was done with reference to the training of applicants at that time. Since that time the primary, sec-

ondary, and high schools, public and private, have greatly increased in number and in efficient work; and vastly more applicants for admission could now be found prepared to pass a much higher preliminary examination than could then be found prepared to pass an elementary one. It seems strange, with the present development in mathematical instruction in all our schools, that a knowledge of arithmetic should still be a sufficient evidence of proficiency in mathematics to enter West Point, where mathematics is the principal study.

A comparison of the standard of admission to West Point with that prescribed in the more prominent colleges and scientific schools in the United States, and with that of the military schools of Europe, is instructive.

The comparison of West Point with the technical schools in the United States and with the United States Naval Academy shows that the requisites for entrance to the Military Academy are less than in the case of any of these schools. This is especially true in mathematics. If a similar comparison were made between West Point and the collegiate (undergraduate) departments of Harvard, Yale, Princeton, the Johns Hopkins University, or any of the better colleges of the United States, the lowness of the requisites for entrance to West Point would probably be still more apparent.

The comparison of West Point with the military schools of Europe shows that the standard for admission into those schools is much higher than at West Point. But we are not to infer from this circumstance alone that the graduate of West Point is less trained than the graduates from some of these schools. The course of study at West Point is four years, while that of the European schools varies from eighteen months at Sandhurst to four years in one of the military schools of Belgium. The most prevalent course is two years. Instruction at these schools is more specialized than at West Point. The course of instruction in schools for artillerymen and engineers is longer than that in the schools for infantry officers.

All of these European military schools are, strictly speaking, professional schools. The preliminary examinations are designed to ascertain whether or not the applicant has sufficient technical and general training to begin the study of the military art, and the course of instruction is devoted primarily to teaching military science and art.

On the other hand, the preliminary examination at West Point is designed to test the capacity of the applicant to enter on a course of study, the larger part of which is not training specially designed for the soldier, but a preparation for that training. The first three years at West Point are devoted to what may be called mental training, and the fourth more especially to military subjects. Undoubtedly during these three preparatory years the student has the benefits of military discipline, and the course of study is specially designed as a preparation for the military education. The fact remains, nevertheless, that

more time is devoted to military studies proper in European schools than at West Point. By advancing the standard for admission two years of this preliminary training might be sufficient, and there would then be two years to devote more exclusively to military studies; and possibly greater specialization might be introduced into the Academy by reducing the course of study to three or two years for infantry officers and possibly extending it to five for engineer and ordnance officers.

There are two evil effects springing from the low standard of admission to West Point; one is the character which it gives to the preliminary examination, and the other is the influence it has on the course of instruction.

A low standard of admission does not by any means secure an easy admission. Everything depends on the preliminary examination. It may be so framed and conducted as to reject more applicants than an examination on more or higher requisites. In other words, it may not be the subjects of examination, but the character of the examination, which determines the percentage of rejections.

An inspection of the statistics of the Academy¹ shows that the percentage of candidates rejected on preliminary examination increased, although with fluctuations, from 1838 to 1870, and has since 1870 been very large. This may be attributed to two causes: First, the examinations may have been more severe; and, second, the candidates may have been not so well prepared. Manifestly the greatly increased percentage of rejections during the last twenty years can not be attributed to this latter cause. It would hardly be contended that while the schools of the country and the education of the young had steadily improved, appointees from 1870 to 1890 were not so well prepared as those from 1838 to 1870. Furthermore, it is impossible to believe that some of the sharp fluctuations in the percentage of rejections were produced by differences in the qualifications of the candidates. The nature of this examination may be inferred from the fact that 52.89 per cent were rejected in 1870; 42.58 per cent in 1874; 45.9 per cent in 1877; 41.37 per cent in 1881; 41.46 per cent in 1889; and the lowest per cent of rejections from 1870 to 1890 was 25.78, in 1885. Some of the fluctuations are startling, such, for example, as the rejection of 52.89 per cent in 1870 and 29.63 per cent in 1871.

The appended tables of statistics seem to show that while the standard of admission to the Academy has been apparently unchanged, except by the act of 1866, it has in reality been changed by making the preliminary examinations more severe, and that the preliminary examinations are far from being of uniform difficulty. That the examinations should become more difficult was natural and possibly unavoidable. The examiners must feel that with the continually increasing educa-

¹See the tables prepared by Professor Bass contained in the paper of Lieutenant Willcox, published as an appendix to this report.

tional facilities more severe tests of admission should be applied. Possibly, in increasing this severity, they have to a considerable extent acted unconsciously, and were moved by the general trend which has found expression in raising the standard of admission to nearly all of the high schools and colleges of the country. The schools and colleges had also one strong inducement to keep down the admission requisites, as the rejection of applicants meant to them diminished numbers and revenue. But the examiners at West Point were untouched by these influences.

Furthermore, the fluctuation in the severity of the examination is a natural result of this increasing severity. This fluctuation need not necessarily be in the character of the questions; it may be in the greater or less strictness in valuing the answers. A large percentage of rejections one year would produce in the examiners the feeling that they had been too severe, and this would influence them to less severity for a time thereafter.

These evils are incident to all preliminary examinations and indeed to all examinations; but it is believed they exist in a special degree where the examination is made severe by the character of the examination and not by the number and difficulties of the subjects.

But the worst effects produced by a standard created by the severity of examinations rather than by the subjects of the examination are its influence on applicants and its failure to select the best material for admission to the Academy. Such examinations produce a peculiar and vicious system of coaching and cramming, and are a test of memory and of a certain quickness and alertness of mind rather than of more sound and staying qualities; and as a test of originality of mind or of reasoning capacity they are almost a complete failure. These again are defects inherent in any system of examinations; but they exist in an exaggerated degree in the peculiar kind of examinations we are discussing.

Turning from the preliminary examinations to the course of instruction in the Academy, we find that the evils of the low standard of admission perpetuate themselves through the whole four years of academic life. The instructors at West Point have the natural and proper ambition to make the graduates of that institution the representatives of a training equal or equivalent to that of the graduates of the more prominent colleges and technical schools of this country and of the military schools of Europe. And this ambition is not a thing engendered by mere rivalry. As has been already said, that degree of training is needed to produce the scientific soldier.

To do this they are compelled to compress into four years a course of instruction corresponding in other schools, where higher admission requirements exist, to five, six, and even seven years of training. And this, too, is exacted of students subjected to all of the demands on their time made necessary by military drill and discipline.

This explains why the percentage of graduates show in the accom-

panying tables is not greater. There need be no wonder that many fall by the way.

The inevitable effect on the student is to foster a vicious system of cramming, and to cultivate the memory, alertness, and perceptive faculties, rather than reason, originality, and self-reliance in new conditions. The acquisition of knowledge, rather than the cultivation of faculty, becomes an object; and the knowledge gained is acquired under circumstances which make it peculiarly liable to evaporate.

The system of high pressure to which the cadet at West Point is subjected, with its attendant evils, seems to be a more proper subject for criticism than any other thing connected with the institution, and for this high pressure the low standard of admission is, more than anything else, responsible.

With that standard raised, we feel confident that the preparation for the preliminary examination will proceed on more catholic lines, that examination will result in fewer rejections and will be a better test of qualifications to enter the Academy, the strain of the course of instruction can be measurably relieved, the character of the training can be elevated, the results of the training improved, and there can be a larger percentage of graduates.

Something may be said in reference to the sentiment which has kept down the standard of admission at West Point, while it has been raised almost everywhere else.

It is the natural feeling that it is the people's college, sustained by and for the people, and that to raise the standard too high is to exclude from it the sons of the poor, who are unable to give their children a high preliminary training. It would certainly be a misfortune to the Academy and the country to do anything to make it in any sense or degree the school of any section or class.

But it is to be borne in mind that the multiplication of and improvement in public schools have given opportunities of education to numbers who formerly did not have them. The standard of 1812 would then have excluded more than a higher standard would now.

The courses of study in all the public high schools of the country are far in advance of the admission qualifications of the Academy as now set by Congress. The age of admission to the Academy is not younger than 17. Congress could surely work no injustice to the boys educated in our public schools by demanding that at least part of the curriculum of the higher public schools should be included in the entrance examinations to the Academy. If a boy can not enter the Academy until at least 17 years of age, why not make him pass an examination in some of the studies which he must be presumed to have followed before 17, in addition to reading, writing, arithmetic, English grammar, United States history, and general geography?

There seems also little likelihood that West Point will lose its popular and national character so long as appointments to it are made on

recommendation of Members of Congress. The cadets thus come from all parts of the country, and the power that recommends is directly from the people and in contact with the people.

Another argument sometimes used against raising the standard of admission is that with its present standard West Point has produced some great soldiers, and some of these did not graduate with high grades.

This argument may be turned in so many ways that it is of little worth. If extended, it would make the existence of self-made men an argument against education.

By the law as it now stands the requisites of admission to the United States Naval Academy are fixed by the Secretary of the Navy, and the standard of admission to that institution is now higher than that at West Point.

There seems to be no reason for committing this power to the Secretary of the Navy which could not be urged in favor of committing an analogous power to the Secretary of War. It would undoubtedly be exercised on consultation with army officers and on recommendations of the academic board of the Military Academy.

Indeed, the subject seems to be one that can not be well regulated by statute. However competent legislative bodies may be to regulate such a subject, the mass of public business thrown on them leaves them little time to deal with the shifting adjustments of the standard required by changes in the quality and subjects of education. This is sufficiently evidenced by the fact that notwithstanding the great changes made in the subjects taught in the schools since 1812 and the continued improvement made in the training of the young since that date, only one change has been made in the requisites of admission to the Academy since 1812; and this, made in 1866, only added some new subjects to the examination without raising the standard of requirement in the old subjects, which included mathematics. The educational improvements of the country should be reflected in the training given at West Point, and to do this the standard of admission should receive an impress from those improvements. It can hardly be claimed that statutes have done this in the past, or will do it in the future.

JOSEPH WHEELER, *President.*

THOMAS J. WOOD, *Vice-President.*

SIGOURNEY BUTLER, *Secretary.*

FRANK P. BLAIR.

PETER HAIRSTON.

E. G. JANEWAY.

SETH L. MILLIKEN.

RICHARD M. VENABLE.

WILLIAM F. VILAS.

WM. P. FRYE.

JOSEPH E. WASHINGTON.

J. M. WRIGHT.

APPENDIX A.

HEADQUARTERS UNITED STATES MILITARY ACADEMY,
West Point, N. Y., June 12, 1895.

SIR: By direction of the Superintendent, I have the honor to submit the following estimate of the increase in the annual appropriations for the support of the Military Academy that would be caused by providing for ten additional cadets "at large" and one for each Senator, as requested in your letter of the 10th instant.

The total number of cadets now authorized by law is 371. The increase contemplated would raise this total, based upon the present number of Senators, to 469. The average maximum strength of the corps for the past five years has been 296, but the average maximum has been 83 per cent of the total number of cadets authorized. This apparent discrepancy is due to the fact that in 1893 the total number of cadets was increased from 347 to 371, due to the increase in the number of Congressional districts in that year.

Assuming that the average maximum attendance would continue to be 83 per cent, the proposed increase would add some 81 cadets, raising the average maximum attendance to 377.

The average number of cadets in the corps for the past five years has been about 80 per cent of the total number authorized. With the increase proposed the average number that would be borne on the rolls would be about 375—an increase over the present average strength of 81.

The pay of each cadet is \$540 per annum. An increase of 81 would add \$43,740 to the annual appropriation for the pay of cadets. As the pay of the cadet is made to cover all of his expenses for subsistence, clothing, books, and other supplies for his personal use, this amount represents the permanent increase in the annual appropriation for this purpose.

An addition of 81 cadets would involve an increase in the number of instructors, probably from four to six. As the accommodations for officers are at present barely adequate for those now required at the Academy, additional quarters would be necessary, at an aggregate cost of \$20,000 or \$25,000. The increase in the number of instructors would probably be made gradually from year to year, as the larger classes

would enter, so that this amount could be spread over several years' appropriations, and would cease to be an item of expense when sufficient quarters were obtained.

The instructors would be officers of the Army, and there would be consequently no additional expense for their salaries.

The cadet barracks will to-day accommodate 336 cadets—two in a room. The “angle” of barracks and an adjoining division are now used for officers' quarters—chiefly officers of the tactical department—trunk rooms, storerooms, and operating rooms for the cadet dentist. Were all of these rooms available, 384 cadets could be provided for in the barracks, and thus ample accommodations could be furnished for the estimated increased average strength. Should the number of cadets present exceed 384, three could be placed in some of the rooms, as has been necessary on occasions heretofore, until the number present was reduced, which would occur during the first four months of the period in barracks, through resignation and discharge.

The occupation of the entire barracks for the use of cadets would require the erection of additional quarters for the tactical and other officers now living there, and would also require that provision be made for the cadet dentist and for the storage and safe-keeping of ordnance and other property.

From the foregoing it will appear that the only permanent increase in the annual appropriations for the Academy would be that necessary to provide payment for the additional cadets, which would amount to about \$43,000.

The expenditure for extra quarters, etc., would be incidental, and would cease when these were provided.

Very respectfully,

J. M. CARSON, Jr.,
First Lieutenant, Fifth Cavalry, Adjutant.

Hon. SIGOURNEY BUTLER,
Secretary Board of Visitors, West Point, N. Y.

APPENDIX B.

CONDITIONS OF ADMISSION AND COURSE OF INSTRUCTION IN THE NATIONAL MILITARY SCHOOLS OF EUROPEAN POWERS.

BELGIUM.

The school which corresponds most nearly to the United States Military Academy is the *École Militaire*, or Military Academy at Ixelles.

The object of this school is to supply officers to the following arms: (1) The infantry, (2) the cavalry, (3) the artillery, and (4) the engineers.

The length of the course of instruction is two years for the infantry and cavalry section, and four years for the artillery and engineer section.

All students, on commencing the second year's course, must contract to serve for eight years.

There are no admissions to the school except by competition.

CONDITIONS OF THE COMPETITIONS.

I. The names of all candidates must be entered on the lists of the Military Academy.

These lists are closed one month before the opening of the examinations. No one can be admitted to the competition unless he has previously shown: (1) That he is a native or naturalized Belgian; (2) that he is over 17 and less than 21 years of age on the day of the opening of the competition.

Youths of less than 18, who under the laws in force in Belgium have at this age the right of choosing Belgian nationality, may also be admitted to the competition. They will not, however, be allowed to commence the second year's course unless they have made their declaration of election according to the forms prescribed by the law.

Exceptionally, the following may be admitted to the competitions: (1) Soldiers of the active army, up to the age of 25 years; (2) university graduates who have obtained one or more academic degrees, up to the age of 23 years.

II. Each candidate on entering his name on the list at the Military Academy must furnish:

1. A copy of his certificate of birth.
2. A copy of his father's certificate of birth.

The documents must be attested in proper form by the president of the tribunal of first instance.

3. A declaration of the father or guardian of the candidate, certifying that the father of the latter was born of Belgian parents or that he has obtained full naturalization by the law of ———.

This declaration must be legalized by the burgomaster of the place where the affiant is domiciled.

If the father of the candidate had acquired the status of Belgian nationality by fulfillment of the formalities prescribed in article 9 of the Civil Code, the person so admitted to citizenship must produce the attestation of competent authority to that effect.

* * * * *

4. Candidates who are not from the army and who are more than 19 years of age on the 1st of January of the year of the examinations must produce a certificate stating that they have taken part in a drawing of lots for the militia.

Candidates must besides, at the time of entering their names, declare: (1) The language (French or Flemish) with which they wish to prove that they are thoroughly familiar, from a grammatical and literary standpoint; (2) the language (Latin, Flemish, French, German, or English, other than that chosen for 1) on which they wish to be questioned.

When they present themselves for the oral examinations, candidates must deliver to the president of the examining board: (1) A certificate of vaccination signed by a physician and legalized by the communal authority; (2) a certificate of the communal administration of the place of the domicile testifying to their good conduct.

III. The examinations for admission are held annually before an examining board appointed by the King. These examinations are both oral and written.

Separate competitions are held (*a*) for artillery and engineers, (*b*) for the infantry and cavalry. Candidates may have their names entered for both competitions, or for each of them separately.

There are for each competition two series of examinations: The first series is the same for both sections; it hinges upon (*a*) a thorough acquaintance with French or Flemish; (*b*) Latin, Flemish, French, German, or English; (*c*) history; (*d*) geography, and (*e*) drawing.

The different examinations of this series are either oral or written, and extend over several sessions.

The second series deals with the mathematical branches; it is distinct for the two sections.

The examinations for the first series commence on the 1st of August.

The examinations in mathematics are held as follows: (*a*) For the artillery and engineer section, toward the 1st of September, and (*b*) for the infantry and cavalry section toward the 1st of October, after the admissions to the first of the sections mentioned have been decided upon.

The examinations to be undergone for the artillery and engineer section can not secure for a candidate a place on the list of admissions to the infantry and cavalry section.

IV. For the different branches the following number of points will be allotted:

(a) For admission to the infantry and cavalry section:

Mathematics—	Points out of 100.
Written examination.....	17
Oral examination	16
Thorough acquaintance with the French or Flemish language.....	25
History.....	12
Geography.....	12
Latin, Flemish, German, or English.....	15
Drawing.....	3
Total	100

(b) For admission to the artillery and engineer section:

Mathematics—	
Written examination.....	25
Oral examination	25
Thorough acquaintance with the French or Flemish language.....	20
History.....	9
Geography.....	9
Latin, Flemish, French, German, or English.....	9
Drawing.....	3
Total	100

Every candidate who in the first series of examinations does not obtain in the examination to test the thorough acquaintance with the French or Flemish language one-half the maximum number of points assigned to this branch, or in any of the other branches two-fifths of the maximum, will be excluded from the competition and will not be admitted to the examinations of the second series.

No candidate can be included in the final classification list, whatever be his general average, who does not obtain one-half of the maximum number of points assigned to all the mathematical branches if he is competing for the artillery and engineer section, and two-fifths of this number if he presents himself for the infantry and cavalry section.

V. PROGRAMME OF THE ATTAINMENTS REQUIRED.

A.—THOROUGH ACQUAINTANCE WITH THE FRENCH OR FLEMISH LANGUAGE.

The programme of this examination is that of the Latin or modern classical courses of the Royal Athénées (high schools) up to and including rhetoric.

Special stress is laid upon the following parts:

Style.—Principles, figures, and tropes.

Fundamental principles of the narrative and descriptive style, of the epic, of the dramatic style, and of eloquence.

Literary analysis of an address, of a piece of prose or poetry.

Composition.—Narration, description, letter, address.

B.—LATIN, FLEMISH, FRENCH, GERMAN, OR ENGLISH.

Latin.—The candidates will execute a theme and a translation (the translation without dictionary). They should be able to translate at sight one of the classic authors studied in the second-class year¹ or in rhetoric.

Flemish, German, and English.—The examination will include a theme and a translation (without a dictionary). The candidates must, besides, be able to explain at sight a prose selection, and reply in the language that they offer to a few questions that will be put to them in that tongue.

French.—The candidates who have undergone the searching examination in Flemish will have an exercise in grammatical analysis and an exercise in composition.

C.—HISTORY.

The subjects taught in the royal high schools up to and including rhetoric. Stress will be laid on the subjects detailed below.

General history.—The questions cover ancient history as far back as the reign of Alexander the Great, mediæval history, and modern history of the principal European and American nations down to the Russo-Turkish war of 1877–78.

History of Belgium.—The questions cover the whole subject of the history of the Netherlands from the time of Julius Cæsar down to the separation of Belgium from Holland in 1830, and include the events which immediately followed this revolution.

D.—GEOGRAPHY.

The subjects taught in the royal high schools up to and including the rhetorical course.

Stress will be laid upon acquaintance with the following subjects:

Principles of cosmography and of general geography.—Form and dimensions of the earth; diurnal revolution of the earth; terrestrial circles; zones; astronomical seasons; inequalities in the lengths of the days and nights; lunations; mean radii of the ecliptic and of the moon's orbit; longitudes; latitudes; division of the globe between continents and oceans; cartographical figure and division of the continents; principal divisions of the oceans, straits, lakes.

Physical, political, and statistical geography of Europe.—Comprises a very thorough examination on this subject, with particular reference to the geography of Germany, France, the Netherlands, Austria-Hungary.

General geography.—Asia, America, Africa, Oceanica; boundaries; principal coasts, seas, islands, gulfs, etc.; nomenclature, situation, and development of the great mountain chains; principal rivers; population; political divisions and important cities.

¹Of the Athénées Royales.

Geography of Belgium, physical, political, and administrative.—Comprises a very searching examination, descending to small details. Among the problems is to draw a somewhat detailed map of each of the Belgian provinces, with scale, etc.

E.—DRAWING.

Candidates will have to draw from nature, and will also shade, a few objects of simple form, approximating in shape to the polyhedrons of solid geometry.

SUBJECTS OF THE SECOND SERIES OF EXAMINATIONS.

F.—MATHEMATICS.

(a) ARTILLERY AND ENGINEERING.

Programme of the scientific section of the royal high schools, up to and including the rhetorical course.¹

(b) INFANTRY AND CAVALRY.

Programme of the section of the Latin classical course of the royal high schools up to and including rhetoric, besides the part that treats of surfaces and of the volumes of round bodies.

The programme gives very fully the subjects of the examination, in which the parts that pertain only to the artillery and engineer examination are given in italics. As this programme is extremely long the subjects will be mentioned only in a general way, and the matters peculiar to the artillery and engineer examination will be indicated in italics:

Arithmetic.—The programme also includes the higher arithmetic.

Characteristics of divisibility of numbers written in the system whose base is B by the divisors of B^m and $B^m \pm 1$.

Theory of periodic fractions in any given system of notation.

Extraction of the fourth, eighth, and sixth roots within a known degree of approximation.

Fundamental principles of numerical approximations.

Algebra.—Includes also higher algebra.

Properties of trinomials of the second degree.

Questions of maximum and minimum depending on the second degree.

Arrangements, permutations and combinations, etc.

Development of the entire and positive powers of a polynomial. Extraction of the m th root of a number or a polynomial, m being a whole number and positive.

Indeterminate equations of the first degree.

Theory of continued fractions.—Reduction to continued fractions of the roots of an equation of the second degree.

¹Commencing with 1895 a slightly different mathematical programme will go into effect.

Summation of the like powers of the terms of a progression by differences; summation of piles of balls with triangular, square, and rectangular bases.

Exponential equations.

Construction of logarithmic tables.

Use of indeterminate coefficients.—Fundamental theorem; application of the method of indeterminate coefficients to the theory of division, to the determination of the m th root of a polynomial, to the determination of the relations which must exist between the coefficients of an algebraic expression in order that it may satisfy certain conditions.

Elementary geometry.—Through plane and solid geometry.

Plane trigonometry.—Through the subject.

Spherical trigonometry.—Through the subject.

Analytical geometry of two dimensions.—Through the subject.

Descriptive geometry.—Theorem and problems relating to the point, the right line, and to plane surfaces.

Candidates will have to solve graphically a problem and submit accurate drawings of the same.

* * * * *

The works specially recommended (being those submitted to the Government by the council for the advancement of education in the middle schools) for the teaching of the scientific course of the first class year in the high schools of the Kingdom are the following:

Arithmetic.—Gelin: *Traité d'arithmétique élémentaire, à l'usage des élèves des cours professionnels, des candidats aux écoles spéciales des universités, et à l'École militaire de Bruxelles.* Bertrand: *Traité d'arithmétique.*

Algebra.—Falisse et Graindorge: *Traité d'algèbre élémentaire.* Bertrand: *Traité d'algèbre.*

Geometry.—Cambier: *Éléments de géométrie, d'après A. M. Legendre.* Blanchet: *Éléments de géométrie, par A. M. Legendre; avec additions et modifications.*

Trigonometry.—Cambier: *Leçons de trigonométrie rectiligne et sphérique.* Gelin: *Éléments de trigonométrie plane et sphérique, à l'usage des cours professionnels, des candidats aux écoles spéciales des universités et à l'École militaire de Bruxelles.*

Analytical geometry.—Falisse: *Cours de géométrie analytique plane.* Briot et Bouquet: *Leçons de géométrie analytique.*

Descriptive geometry.—No work is specially recommended, but among the seven works authorized the one which gives the best preparation for the present course of instruction at the military academy is the following: Chome: *Cours de géométrie descriptive de l'École militaire, 1^{re} partie, livre 1, seconde édition.*

ADMISSION OF CANDIDATES.

VI. The minister of war decides upon the persons who are to be admitted to the military academy, in accordance with the results of the competitions.

* * * * *

Every candidate admitted as a scholar who does not report within four days after the date fixed for the opening of the course of studies * * * is considered as having resigned.

On their arrival at the school the scholars are subjected to a medical examination. * * *

VII. Relates to the sums to be paid for maintenance and outfit. Scholars admitted from the ranks receive the pay and allowances of their former grade while present at the academy.

VIII. Relates to scholarships and half scholarships, which are granted principally to those whose parents are unable to pay for their education. These aids are, as a rule, only granted during the first year of the course, except when a scholar greatly distinguishes himself, when the same aid may be granted for the second year. .

REMARKS.

In the examination of 1893 there were 384 candidates for 60 vacancies.

After finishing two years of the course the scholars of the infantry and cavalry section who pass the final examinations successfully are commissioned second lieutenants. The scholars of the artillery and engineer section who pass at the end of the second year are also commissioned second lieutenants, but they remain at the academy for two years longer to finish the remainder of their course. They are called "Élèves sous-lieutenants" (student second lieutenants).

There is a preparatory school called the "Cours central de préparation à l'École militaire," the object of which is to prepare noncommissioned officers of the army for the competitive examination to enter the military academy. About 20 noncommissioned officers are admitted to the course by a competitive examination.

Any noncommissioned officer who fulfills the required conditions of age and length of service, and who is recommended by an examining board of the regiment, may present his application to his commanding officer, who, if he considers the applicant to be worthy of a commission, will forward the application through the regular military channels to the minister of war, with the necessary legal papers in each case.

The course is for one year, and no person is allowed to remain more than this length of time at the school.

The subjects of examination for those who wish to compete for the "cours central" correspond to the programme taught in the second year of the night school course for noncommissioned officers.

These branches are as follows:

French or Flemish language.—Reading, writing, and grammar.

Arithmetic.—Through extraction of the square root.

Algebra.—Through solution of equations of the first degree, with one or more unknown quantities.

History.—Belgium: History of Belgium from the House of Burgundy to the present time. General: From the peace of Westphalia to the present time.

Geography and cosmography.—Particular attention is to be paid to the geography of Belgium; a less particular study of the geography of the other European states, and an outline of the geography of the rest of the world.

Writing.—Principles of writing. (Instruction in writing is begun in the first and finished in the second year).

Drawing.—Up to and including the drawing of the simple geometrical figures, plane and solid.

Physics and chemistry.—A few elementary ideas on these subjects.

ÉCOLE MILITAIRE DE BELGIQUE.—PROGRAMME OF THE COURSE OF INSTRUCTION.

Artillery and engineer section.

FIRST YEAR.

Higher algebra (22 lessons): Commencing with the theory of determinants, through the solution of equations of the fourth degree, and the subject of imaginary quantities.

Analytical geometry (16 lessons): Through equations of surfaces of the second order.

Differential calculus (28 lessons): Commencing with fundamental principles, through the study of plane curves with both rectilinear and polar coordinates, and the study of curves and surfaces of double curvature.

Descriptive geometry (70 lessons): Commencing with fundamental principles, through the subject of shades and shadows, etc. Commencement of the subject of perspective.

Cinematics (14 lessons): Motions of points and solid bodies.

Physics (40 lessons): Commencing with fundamental principles, through thermodynamics and acoustics.

Chemistry (40 lessons): Through the study of metals and their principal combinations.

French literature (25 lessons): History of literature up to the eighteenth century. Compositions.

Flemish (35 lessons): There is a superior course for pupils already acquainted with the language, and a lower course for the other pupils.

German or English (35 lessons): Fundamental principles of the language. Practical exercises in conversation. Themes and translations.

Hippology (16 lessons): Elements of, and elements of veterinary hygiene.

Drawing: Drawing of the figure (25 lessons). Pen and ink (geometrical solids) (15 lessons).

Military regulations (40 lessons): Interior service. School of the soldier. School of the company. Firing regulations.

Exercises: Military exercises and drills. Gymnastics. Fencing. Riding. Swimming.

SECOND YEAR.

Integral calculus (37 lessons): Through the subject.

Theory of probabilities: Through the subject, including the method of least squares, and applications to questions arising in firing.

Descriptive geometry: First part (19 lessons)—Surfaces generated by the motion of a rectilinear element. Second part (23 lessons)—Applications of descriptive geometry to stonecutting, and to the representations of framework and parts of buildings. One plane descriptive geometry. Drawing (42 days).

Mechanics: First part (24 lessons).—Statics. Second part (24 lessons).—Dynamics. Hydrostatics and hydrodynamics.

Astronomy (24 lessons): Through the subject, including celestial mechanics, physics of the earth; terrestrial magnetism, meteorology, and stellar astronomy.

Construction of maps (7 lessons): Perspective constructions. Conventional projections. Projections formed by the method of development, including the method of Mercator.

Gnomonics (1 lesson): The different kinds of sun-dials.

Physics: First part (20 lessons).—Optics, geometrical and physical, including the theory of wave motion. Second part (20 lessons).—Electricity and magnetism.

Chemistry (25 lessons): Organic chemistry.

French literature (25 lessons): History of French literature in the eighteenth and nineteenth centuries. Exercises in composition and elocution.

Flemish (35 lessons): Programme similar to the course of the first year.

Hygiene (24 lessons): Anatomy and physiology of the human body; military hygiene. Surgical guide; medical guide.

Drawing: Drawing from reliefs (20 lessons). Landscape drawing (30 lessons.)

Military regulations (35 lessons): Field service and garrison service. School of the battalion and regiment. Mounting and dismounting of arms.

Exercises: Military exercises and drills. Gymnastics. Fencing. Riding. Swimming.

THIRD YEAR.

Applied mechanics (37 lessons): Hydraulics properly so-called. General theory of machines.

Topography (16 lessons): Map-making and map-reading. Planimetric methods. Leveling. Hasty topography. Topographical reconnoissances. Telemetry. Practical applications.

Applied physics (26 lessons): Thermodynamics. Electrical physics. Electric lighting.

Chemistry (20 lessons): Explosives. Lighting by gas. Water; classification of different kinds of water from the hygienic point of view and filtration of water.

Geology (16 lessons): Elements.

Civil engineering (41 lessons): Strength of materials. Knowledge of materials. Roads and railroads.

Military art (55 lessons): First part—Recruiting; organization; mobilization; applications. Second part—Strategy (with applications on the map). Third part—Tactics (with practical operations of small units, and applications on different kinds of ground).

Artillery (50 lessons): Preliminary ideas, including elementary ballistics. Artillery material; laying and firing.

Fortification (75 lessons): Permanent fortification. Temporary fortification. Attack and defense of fortresses. Instruction journeys and practical work.

Languages (one lesson per week in each language): Flemish, German, or English; continuation of the studies of the first two years.

Exercises: Riding.

FOURTH YEAR.

Applied mechanics (25 lessons): Steam engines and other motors depending upon the conversion of heat into mechanical energy. Principles of engine construction.

Geodesy (16 lessons): Instruments employed in geodesy. Triangulation, etc. Latitudes, longitudes, azimuths. Leveling, mechanical geodesy.

Applied chemistry (25 lessons): Combustibles. Iron and steel and various metals. Materials of construction. Manufacture of glass. Oils, colors, paints, and dyes.

Photography (6 lessons): Elements and practical applications.

Civil engineering, etc.: (a) Course of both sections (15 lessons)—Elements of graphical statics; trusses. (b) Course special to the engineer section (45 lessons)—Trusses; stability of masonry; execution of masonry. (c) Course special for the artillery section (6 lessons)—Resistance of tubes; hooping of guns.

Architecture: (a) Course for both sections (16 lessons)—Composition; decoration, orders, and styles of architecture; ogival architecture; medieval architecture; military architecture; modern architecture. (b) Course special to the engineer section (12 lessons)—Construction of buildings.

Military art (30 lessons): Fourth part—Military geography. Fifth part—Military history, including the Franco-German war as far as the capitulation of Sedan.

Legislation (8 lessons): Elements of military justice, discipline, the law of nations, and military instruction and education.

Artillery: (a) Course for both sections (13 lessons)—Service and tactics of artillery in sieges and in fortified places; construction of batteries. (b) Course with a common programme for both sections, but more detailed for the artillery than for the engineers (25 lessons for the artillery section and ten for the engineer section)—Theory of the construction of carriages; machines for mechanical maneuvers; pontoon and temporary bridges (including foreign bridges); foreign artillery. (c) Course special to the artillery section (35 lessons)—Service and tactics of artillery in the field; ballistics, exterior, interior, and penetration.

Fortification: (a) Course for both sections (20 lessons)—History of fortifications; connection of fortifications with strategy; defense of States; Belgian defensive system. (b) Course special to the engineer section (14 lessons)—Mines; military bridges; plans of fortification.

Administration (25 lessons): Preliminaries; service of administration in the units of the troops; allowances, etc. Arms, ammunition, clothing, camp and garrison equipage. Funds kept up in the different corps, etc. System of accountability of corps, etc. Practical exercises.

Languages (one lesson per week in each language): Flemish, German, or English; continuation of studies of the first three years.

Practical exercises: Visits to the principal military establishments, polygons, powder works, gun shops and arsenals, battlefields, etc. Practical exercises in fortifications, etc., on the terrain. Riding.

Infantry and cavalry section.

FIRST YEAR.

Geometry (10 lessons): Properties and graphical constructions of such curves as the ellipse, hyperbola, parabola, and the helix.

Descriptive geometry (33 lessons): Through the elements of perspective.

Mechanics (16 lessons): Cinematics, statics, and dynamics, elements of each, with a short course on steam, hydraulic, gas engines, etc.

Topography (24 lessons): Same course as in the sections of artillery and engineers (third year).

Physics (36 lessons): Elements of, and elements of heat, optics, acoustics, electricity, and magnetism, with practical applications.

Chemistry (45 lessons): Elements of inorganic chemistry.

Artillery (40 lessons): Elements of the science of gunnery, and description of Belgian and foreign small arms and artillery; also bridges constructed with the Belgian bridge equipages.

French literature (25 lessons): Same programme as in the sections of artillery and engineers (first year).

Flemish (35 lessons): Same programme as in the sections of artillery and engineers.

German or English (35 lessons): Same programme as in the sections of artillery and engineers.

Hygiene (21 lessons): Same programme as in the sections of artillery and engineers (second year).

Drawing (65 lessons): Picturesque drawing and pen and ink sketching.

Military regulations (55 lessons): Same programme as in the sections of artillery and engineers (first year).

Exercises: Military exercises and drills. Gymnastics. Fencing. Riding. Swimming.

SECOND YEAR.

Cosmography (14 lessons): Elements of.

Military art (97 lessons): First, second, and third parts—same programme as in sections of artillery and engineers (third year). Fourth part—military geography; elements of the military geography of Europe. Fifth part—military history; same programme as in the sections of artillery and engineers (fourth year).

Legislation (8 lessons): Same programme as in the sections of artillery and engineers (fourth year).

Fortification (60 lessons): First part—Permanent fortification. Second part—Temporary fortification. Third part—Attack and defense of fortresses and the defense of states.

Administration (25 lessons): Same programme as is in the sections of artillery and engineers (fourth year).

French literature (25 lessons): Same programme as in the sections of artillery and engineers (second year).

Flemish (35 lessons): Same programme as in the sections of artillery and engineers.

German or English (35 lessons): Same programme as in the sections of artillery and engineers.

Hippology (16 lessons): Same programme as in the sections of artillery and engineers (first year).

Drawing (18 lessons): Landscape drawing, drawing from nature.

Military regulations (45 lessons): Field and garrison service; schools of the battalion and regiment; mounting and dismounting arms.

Exercises: Military exercises and drills. Gymnastics. Fencing. Riding. Swimming.

As a result of the high standard of admission to the *École Militaire* and the keen competition for admission thereto, there are very few failures to complete the course of instruction. At the examinations for entrance in the year 1890–91, the total number of candidates was 246, of whom 115 were from the army and 131 from civil life. The total number successful at this time was 79, of whom 44 were from the army and 35 from civil life. At the school examinations at the end of this year the total number of cadets examined was 329 of all classes, of whom only 5 failed to pass.

The same year the number of competitors for entrance to the “*Cours central de préparation à l'École militaire*” was 42, of whom 27 were admitted. Two of these were sent back to their regiments in the course of the year, leaving 25, who all passed successfully at the end of the school year. Only 14 of these, however, were successful in the competition for the “*École Militaire*.”

TEXT-BOOKS EMPLOYED AT THE "ÉCOLE MILITAIRE."

The official programme does not give any of the text books employed, but a few of them are mentioned in the list of works recommended to persons preparing for the entrance examinations. Many of the text-books are peculiar to the school, being only issued in lithographed form, and intended solely for the use of the students and instructors of the school.

ITALY.

At the present time—April, 1895—the military schools of Italy are divided into three classes, viz:

1. The "collegi militari," or military preparatory schools, of which there are five, established in the following cities: Naples, Florence, Milan, Rome, and Messina.

2. The military schools for the training of officers and noncommissioned officers, of which there are four, viz: (a) The military school of Modena; (b) the military academy of Turin; (c) the military sanitary school of application in Florence; and (d) the noncommissioned officers' school in Caserta.

3. The "scuole militari complementari," or the military schools of application proper, for officers, of which there are three, viz: (a) The war school ("Scuola di Guerra"), in Turin; (b) the school of application of artillery and engineers, in Turin; and (c) the school of cavalry, in Pinerola.

There are, in addition to the schools mentioned above, schools for artillery and musketry practice, a school of fencing, and batteries and platoons of instruction for training noncommissioned officers in their duties.

Circular No. 3 of the 5th of January, 1893, published in the *Giornale Militare Ufficiale* for that year, stated that the minister of war would not promise that after the school year 1893-94 there would be any more admissions to the lowest classes of the collegi militari. This order foreshadowed a gradual winding up of these schools. Accordingly it appears that there were no admissions to the collegi militari during the past year, and none are indicated in the orders for this year.

Indeed, a royal order of the 6th of November, 1894, decreed the abolition of these schools. Before this decree takes effect, however, it must be approved by Parliament, and it is now considered doubtful whether this approval will be given or whether the collegi militari will be allowed to continue.

SCHOOLS FOR THE TRAINING OF OFFICERS.

Of these, the schools which correspond most nearly to the United States Military Academy are the *Scuola Militare*, of Modena, and the *Accademia Militare*, of Turin.

I.—THE SCUOLA MILITARE, OR MILITARY SCHOOL, OF MODENA.

The object of this school is to furnish officers to the infantry and cavalry arms and to the commissariat corps of the royal army.

The course of study is completed in two scholastic years, at the end of which those students who pass the prescribed examinations are appointed second lieutenants in the infantry or cavalry or in the commissariat as fast as vacancies occur.

Admission to the military school.—The number of admissions yearly to the lowest class of the military school is fixed by the minister of war, and published, generally in the month of January or February, in the *Giornale Militare Ufficiale* (Official Military Journal). These places are granted (a) to the boys who have passed successfully through the fifth and last class of the “*collegi militari*”; (b) by competitive examination, to such boys as show themselves to be the best qualified, the examination being based upon the programme of admission; (c) by award based upon the ratings shown in school diplomas or certificates, to such boys as have obtained the diploma of a classical school (*liceo*), or of a technical school (*istituto tecnico*). Diplomas more than a year old are not admitted, unless the candidate has been prosecuting his studies in some higher institution of learning. Only the diplomas of the following courses of the technical schools are accepted: Physics and mathematics; land surveying; commercial course, and bookkeeping.

When the number of qualified candidates is greater than the number of places to be awarded, then preference is given first to the graduates of the *collegi militari*, then to students showing certificates of courses of study higher than those of the classical schools, next to the students showing the diploma of the classical school, next to the students showing the diploma of the technical school, and, lastly, to those who have undergone the competitive examination, in the order in which they pass.

Boys who are Italian citizens, and soldiers with the colors or on unlimited leave, are eligible to compete for places in the military schools, provided they possess the following qualifications:

1. They must be between the ages of 16 and 20 on the 1st of August of the year of admission.

2. They must have reached the height of 1.55 m. if they are over 18 years of age. For those who are under this age, the height may be less; but in this case they must give promise of reaching the minimum height by the time they attain the age of 18.

3. They must be well developed and of robust constitution and free from defects that would be a ground for discharge from the army. The chest measurement, for competitors who have not reached the age of 20, may be less than 800 mm, but it should correspond to the physical development of the subject, and should give promise of reaching the minimum by the time the subject is 20 years of age.

4. They must, if they are minors, have the consent of their fathers. In any case where the father is not living the consent of the mother is necessary, or, if both parents are deceased, the consent of the guardian must be had.

5. Their moral character must be good, and they must not have been expelled from any military or civil school.

The graduates of the *collegi militari* and the other successful candidates for admission to the military school are subject to a medical examination on their arrival at the school, and those found to be physically unfit are rejected.

However, graduates of the *collegi militari* who do not pass this physical examination may nevertheless be admitted; but if such boys do not qualify physically before finishing the course at the military school, they are forthwith discharged from the school and are not commissioned in the army.

Requests for admission to the competitive examinations must be made between the 1st of May and the 15th of June of the year in which the admission to the school takes place; requests to be allowed to present diplomas for competition must be made between the 1st of July and the 5th of August. All the requests are eventually transmitted to the minister of war.

The minister reserves the right of excluding from admission such boys as, for any reason whatever, he decides to be unworthy of holding a commission in the army.

Examinations for admission.—The subjects of the examination for admission to the military school are given in the following table; the programmes in each subject will be given later:

Group of subjects.	Subjects.	Method of examination.	Duration of examination.	Coefficients.	
1	Italian language and literature	{ Written	4 hours	}	7
		{ Oral	20 minutes.....		
2	History, geography, elements of natural sciences.	Oral	50 minutes, altogether....		3
3	Arithmetic and algebra; geometry, trigonometry.	Oral	50 minutes, altogether....		3
4	French language	{ Written	4 hours	}	3
		{ Oral	15 minutes.....		

The written examination in the Italian language and literature will precede all the others, and in order to be admitted to the other examinations it is necessary to qualify in this.

The examinations are made by committees, each of which is divided into four subcommittees (one for the oral examination in Italian language and literature; one for the examination in history, geography, and natural sciences; one for that in mathematics, and one for that in the French language). Each subcommittee consists of a president and two members.

In the oral examination, questions, drawn by lot by the president of the subcommittee, are put to the candidates, one question in each subject, except in the examination of history, when three questions are put (one in Greco-Roman history, one in mediæval history, and one in modern history), and in arithmetic and algebra, where two questions are put (one in arithmetic and one in algebra).

However, additional questions may be put, if the subcommittee so desire. For each subject and for each method of examination (that is to say, written or oral) the subcommittees take distinct votes, as follows:

First, the examiners vote "yes" or "no" on the question whether the candidate is qualified in any given subject and in any particular kind of examination; then, another vote is taken to determine the candidate's mark, marks from 10 to 20 being given to candidates declared to be qualified and marks from 0 to 9 to those declared to be not qualified.

The true mark for each candidate on each vote is determined by taking the sum of the marks of the three examiners and dividing the sum by 3.

The mean of the marks for each "group" is obtained by taking the arithmetical mean of the marks given on each vote in all the different subjects of this group.

To obtain the general average for any candidate, multiply the mean mark on each group by the proper coefficient; take the sum of the products and divide by 20.

To be declared qualified for admission a candidate must obtain a qualification by a majority of votes in every separate vote.

However, a candidate may be declared qualified for admission who does not qualify on every vote, provided that his mark on any such vote does not fall below 8-20, and his general average does not fall below 14-20.

SYNOPSIS OF THE PROGRAMMES FOR THE EXAMINATION TO ENTER THE FIRST YEAR OF THE MILITARY SCHOOL.

Italian language and literature.—Written examination. A prose composition, an exercise in invention, on a theme given by the minister. In this the candidate must give proof of knowing how to express and develop the appropriate ideas in their logical order in a simple, clear, and correct style.

Oral examination.—The candidate must be able to read and explain an easy piece of prose or poetry, and to reply to a question relating to one of the following subjects: (a) Grammar and rhetoric; (b) Italian literature from the twelfth century to the present time.

History.—(a) Greek and Roman history down to the fall of the Roman Empire; (b) history of the middle ages, with particular reference to the history of the various Italian States, and the House of Savoy especially; (c) modern history, with particular reference to the history of the Italian States and the House of Savoy; the Reformation, the French Revolution, and the Napoleonic wars; history of Europe since 1815; unification of Italy.

Geography.—(a) Elements of cosmography; (b) general principles of geography; Italy, continental, peninsular, and insular; political divisions of Italy, Asia, Africa, Oceanica, America; general ideas only.

Elements of natural sciences.—Mechanics: Matter, force, solids, liquids, gases, elasticity, gravity, heat, light, magnetism, electricity, chemistry, astronomy, physical geography, zoology, and natural history, botany

Arithmetic and algebra.—Arithmetic: Through the subject. Algebra: Through the solution of equations of the second degree with one unknown quantity; arithmetical and geometrical progressions; exponential functions and logarithms; solution of exponential equations by means of logarithms. Geometry: Through plane and solid geometry. Trigonometry: Plane. Through the solution of oblique angled triangles, and determination of the area of triangles.

French language.—Written examination.

Translation of a short tale or romance of an easy style from Italian into French.

Oral examination.—Grammatical rules and their application; conjugation of the regular verbs; irregular verbs.

Exercises in reading.—Grammatical analysis; construction of the sentence.

The course of instruction at the military school commences in the month of October. The boys admitted in the year 1893 were ordered to report at the school on the 12th and 14th of the month; those admitted in 1894, on the 14th and 15th of the month.

The number of admissions, as has already been stated, is fixed every year by the minister of war. Two hundred and seven were admitted in 1893, of whom 60 came from the *collegi militari*, 95 from the diploma competition, and 52 from the ordinary competition. In 1894 the total number of admissions was 250, of whom the *collegi militari* supplied 104, the diploma competition 134, and the competitive examination only 12.

The orders for 1895 state that the number of admissions to the military school this year will be 120. (*Giornale Militare Ufficiale*, Circular No. 12, 25 January, 1895.) Apparently the number does not include those who will be admitted from the fifth class of the *collegi militari*.

Terms of payment; free and half-free places.—The cost of pension (or board) is 900 lire or francs for the scholars of the military school and military academy, the installments of which are paid quarterly and in advance. In addition each scholar must pay, on admission, for his first equipment, a sum of 350 lire. From this last contribution the scholars promoted from the *collegi militari* are exempted.

There is also an annual contribution from each scholar of 120 lire, payable in advance in installments, which is intended to provide for the renovation and repair of clothing and equipment, and to supply text-books and other necessary articles.

Free places, as such, are granted only to the sons of officers of the army or navy and some of the civil services, where such officers have been killed in battle, or have died of wounds or disease received or contracted in the field.

Half-free places are granted for family services, (a) to the sons of officers of the army and navy who have served at least eight years, (b) to the sons of certain persons who have received military decorations, (c) to boys belonging to families who have rendered distinguished services to the state.

Half-free places are granted on account of personal merit, (*a*) to boys who are admitted to the military academy or the military school on the diploma competition; (*b*) to boys who are admitted to either of these schools on competitive examination, provided they stand in the first tenth of the total number admitted on such competition, and provided also that their general average does not fall below 16-20; (*c*) to such pupils in the *collegi militari*, military school, and military academy as stand in the first tenth of the total number of those promoted a year in each of these establishments, provided that their general average does not fall below 16-20.

A boy may be entitled to a half-free place for two different reasons; in such a case he gets a free place.

The exemption accompanying a free or half-free place refers only to the pension or board money. The contribution for first equipment and the contribution for repairs, etc., must be paid in all cases and by all classes of scholars. Pupils coming from the *collegi militari*, or any of the other national military schools, are exempt however from the contribution for first equipment.

Assignments.—Those pupils of the military school who desire to be assigned to the cavalry must make their applications therefor immediately after entering the school.

Those who desire to be assigned to the commissariat corps must make their applications therefor immediately after their entrance into the second-class year.

Those who make applications for the cavalry must deposit 4,000 francs, or its equivalent, to pay for two horses and the necessary horse equipments, when they are promoted to be second lieutenants of cavalry.

At the end of the first year of the course the aspirants for the cavalry will be subjected to an examination in equitation, and those who are pronounced unfit for the cavalry will be assigned to the infantry section.

Toward the end of the month of January the pupils of the second year who are aspirants for the cavalry are examined again in equitation, and those who are pronounced unfit are assigned to the infantry section.

At the end of the second year those applicants for the cavalry who do not pass in equitation are not allowed to be reexamined, but are turned back a year, unless they choose assignment to the infantry.

Military school—Course of instruction.

Subjects.	First year coefficients.			Second year coefficients.		
	Num-ber of lesson.	Course.	Exami-nation.	Num-ber of lesson.	Course.	Exami-nation.
Italian literature:						
Written	70	5	7	60	5	7
Oral		3	4		3	4
Physical and natural sciences.....	60	3	5			
Small arms and artillery.....	40	3	5			
French and German languages.....	60	3	5	60	3	5
Topography	60	4	6			
Topographical drawing.....	50	2	3			
(Graphical projections (descriptive geometry)....	40	3				
Military history.....	60	3	5	60	3	5
Military art.....	60	4	6	60	4	6
Law, political and military.....				50	3	4
Military geography.....				70	3	6
Fortification (drawing included).....				100	3	6
Military accounts.....				20	3	
Military regulations:						
Theoretical.....	50	2	3	50	2	3
Practical.....	150	3	5	150	4	7
Gymnastics	120	2		90	2	
Fencing						
Riding (for military cadets).....				60	2	
Conduct.....		4			4	
Military aptitude.....		2			3	
Total	830	46	54	830	47	53
Riding (for the cavalry aspirants).....	120			200	2	4
Mark for the practical period of instruction (in- structional camp) to be added to the final aver- age:						
Military instruction.....		.01			.01	
Topographic exercise.....		.01			.01	

Marking and standing.—The final standing of pupils at the military school is determined after the examinations, which are held at the end of each scholastic year, but the pupils receive marks on the progress they have made during the course, determined by their written work, their drawings, and their answers to questions put to them by the professors and instructors during the lectures and class instruction.

Marks are also given by the instructors in riding, fencing, and gymnastics for each pupil at the end of every two months.

Marks are given in conduct and military aptitude by the company commanders at the end of every four months.

The standing is made out in the middle of the year, on the basis of the marks given during the term; the average mark of each scholar is multiplied by the corresponding coefficient and the sum of the products is taken. Dividing this sum by the sum of the coefficients gives the general average for each scholar. The scholars then take rank according to their respective general averages. Those scholars are declared deficient who obtain a mark less than 10–20 in any subject.

At the end of each scholastic year the average for the term's work is determined and combined with the average resulting from the examination. In this way is established the yearly general average on which depends the final standing of the pupils in each class.

In order to be promoted a class, or to graduate, a pupil must obtain in each subject a general average of not less than 10–20, and in all

subjects a final general average of not less than 11-20, including the marks given for conduct and military aptitude.

Those pupils who fail to qualify are turned back a year. If they have already been turned back one year, they are transferred to some corps of the army to finish the time for which they are liable to military service.

The time for which boys who enter the military school or the military academy bind themselves to serve in the army is determined by the law of "*Arruolamento volontario ordinario*," or ordinary volunteer enlistment. This time is four years in the cavalry and three years in all the other arms. Those scholars of the military school who fail in their graduating year in any branch except military regulations may enter the army as sergeants, being assigned to corps in accordance with their applications. Such scholars must contract to serve for five years, in which time their two years at the military school will be counted.

Assignments to regiments on graduation.—The assignments to regiments are made in accordance with the following rules:

Those graduates who are in the first tenth of the whole class, independently of the arm or corps for which they are aspirants, are allowed to designate the three regiments in which they prefer to serve. The other graduates will have no choice, but will be assigned to regiments in their own arms according to the numerical order of the regiments, beginning each year with the one designated by the minister. Such graduates as are pronounced physically qualified for the "*bersaglieri*" (rifles), and the "*Alpini*" (mountain rifles), by an examining committee appointed at the school, are commissioned in those regiments, and the tallest graduates are assigned to the grenadiers.

Lots are drawn for the places in the commissariat corps when there are more applicants than there are vacancies or disposable places.

The same rule is followed when more graduates are recommended for the rifles than there are vacancies available.

As a general rule, applications from newly appointed officers for assignment to particular regiments will not be entertained by the minister of war. Exceptions for the higher graduates have been indicated.

The cavalry graduates of the military school are immediately sent to take a post-graduate course at the school of cavalry in Pinerola. Their ultimate seniority is determined by their standing at the end of the course.

Military organization, etc.—For the purpose of military instruction, drills, etc., the scholars of each class are divided into companies, which in turn are organized into two battalions; the first battalion is formed by the companies of the second year, or seniors, and second battalion by the companies of the first year, or juniors. The number of companies in a battalion depends on the number of scholars in the class.

Each company is organized in a manner conformable to the infantry drill and interior service regulations. The commanding officers of com-

panies are captains, and the subaltern officers lieutenants detailed from the army. The acting noncommissioned officers, or "capiscelti and scelti," are appointed from the cadets of the second year who are specially qualified for such duties, from which class are also appointed the cadet instructors or drillmasters. To each company are also attached two of the noncommissioned officers of the army belonging to the school staff; also two of the school domestics, as policemen.

Each battalion of the school is commanded by a field officer, generally a major, detailed from the army. When the two battalions are united for reviews, inspection, etc., the command of the whole is generally taken by the colonel, who is second in command at the school.

The commander of the school is a general officer, who is directly responsible to the minister of war.

II.—THE ACCADEMIA MILITARE, OR MILITARY ACADEMY OF TURIN.

The object of this school is to educate boys for the position of officers in the artillery and engineer arms.

The course of study is completed in three scholastic years, at the end of which those scholars who pass the prescribed examinations are appointed second lieutenants of artillery or engineers, with seniority from the date of their entering the last year of the course.

Admission to the military academy.—The number of admissions yearly to the lowest class of the military academy is fixed every year by the minister of war, and is published in the *Giornale Militare Ufficiale* at the same time that the number of admissions for the military school is announced. These places are all given in accordance with the results of a competitive complementary examination, to which are admitted only such boys as belong to the three following categories: (a) Boys who have graduated at the *collegi militari*; (b) boys who have obtained the diploma of a classical school or technical school, and who satisfy all the other requirements for this class of applicants as prescribed in the regulations for admission to the military school; (c) boys who have passed in all the subjects of the entrance examination for the military school, and who have obtained in the mathematical examination an average of not less than 14–20.

All these boys must possess the same qualifications with regard to Italian nationality, age, height, etc., that are required for admission to the military school.

Complementary examination.—The subjects of the complementary examination for admission to the lowest class of the military academy are the following: Trigonometry, complementary geometry, and complementary algebra, in accordance with the programmes, which will be given later.

This examination, which is oral only and which lasts fifteen minutes for each candidate, is given by a committee appointed by the minister of war, which holds its sessions successively at the military academy and at the various *collegi militari*.

For each one of the three subjects mentioned above the president of the examining committee draws by lot a question from the list on the programme, and on this question the candidate is examined during the time allotted to him. The committee may however put further questions to the candidate on any of the subjects of examination, and may besides question him on programmes 8 and 9 for admission to the military school. (These numbers refer to geometry and trigonometry.)

With regard to the votes to be taken to determine whether a candidate is qualified, and to determine his mark and general average, the regulations correspond in general to those laid down for the military school. A final vote is taken for all three of the subjects of examination.

All those candidates who obtain a final mark of not less than 10 are declared qualified.

When the number of qualified candidates is greater than the number of vacancies, the vacancies are given to those who have obtained the highest ratings on the complementary examination, irrespective of the class of competitors to which they belong.

SAMPLE QUESTIONS.

1. *Trigonometry*.—No. 8—Area of a triangle; (*a*) in functions of the two sides and the included angle; (*b*) in functions of one side and the angles; (*c*) in functions of the three sides. Area of a quadrilateral in functions of the two diagonals and the angle included between them. Area of a regular polygon in functions of the side and the number of sides. To calculate the diagonals, the angles, the area of a quadrilateral inscribed in a circle, and the radius of the circle, in terms of the sides. Problem of Pothénot.

2. *Algebra*.—No. 6—Product of m binomial factors of the form of $a+b$, $a+c$, $a+d$. * * * Number of terms; law of the exponents of a , and law of the coefficients; development of $(a+b)^m$, m being entire and positive; law of the coefficients and equality of the coefficients of terms equidistant from the two extremes; development of $(a-b)^m$; sum of the binomial coefficients and sum of the same coefficients with alternate signs.

3. *Geometry*.—No. 2—The sum of the squares of the sides of a quadrilateral is equal to the sum of the squares of the diagonals, increased by four times the square of the segment which unites the middle points of the diagonals; in every quadrilateral inscribed in a circle the product of the two diagonals is equal to the sum of the products of the opposite sides; in every quadrilateral inscribed in a circle the two diagonals are to each other as the sum of the products of the sides which meet respectively at the extremities of the same diagonals; calculate the area of a quadrilateral in terms of the sides and the two diagonals; calculate the area and the diagonal of an inscribed quadrilateral, and the radius of the circumscribing circle, in terms of the sides.

The so-called "questions" of these programmes, it will be seen, are really sets of questions.

The course of instruction at the military academy commences in October. In 1893 and 1894 the boys admitted were ordered to report on the 14th of this month.

The number of admissions, as has been stated, is fixed every year by the minister of war. In 1893 the total number of admissions to the lowest class was 42; in 1894 it was 63. The orders for this year announce that 70 places will be open for competition for the class entering in October, 1895.

Terms of payment; free and half-free places.—The regulations under these heads are the same as those that apply to the military school.

Military academy—Course of instruction.

Subjects.	Approximate number of—		Coefficients.	
	Lessons.	Days drawing.	Course.	Examination.
FIRST YEAR.				
Finite analysis (higher algebra, spherical trigonometry, analytical geometry)	185	.....	8	12
Projective geometry, i. e., higher or non-Euclidian geometry	60	30	6	8
Physics (mechanics, electricity, magnetism, optics)	90	.....	6	8
Topography	30	30	4	5
Italian literature	90	(¹)	}	7
French literature	60	.....		3
Military law and regulations	15	.....		4
Right-line drawing .....	.....	30	3	2
German language (optional)	30	.....	.02	.03
Total	570	90	.....	.....
SECOND YEAR.				
Infinitesimal analysis (differential and integral calculus)	120	.....	8	12
Descriptive geometry	60	30	6	9
Chemistry	60	.....	4	6
Italian literature	30	(²)	3	4
French literature	60	.....	3	3
Field fortification	30	30	3	4
Military art (organization and logistics)	30	.....	3	4
Military history (ancient, mediæval, and commencement of modern period)	60	.....	3	4
Landscape drawing .....	.....	30	3	.....
German language (optional)	60	.....	.02	.03
Total	510	90	.....	.....
THIRD YEAR.				
"Meccanica razionale" (geometrical treatment)	120	.....	8	12
Applications of descriptive geometry	60	30	6	9
Applied chemistry	60	.....	4	6
Elements of artillery	60	.....	3	4
Military art—tactics	45	.....	3	4
Military history—modern times	60	.....	3	3
Elements of administration and accounts	15	.....	2	2
Topography	30	30	3	4
Architectural drawing .....	.....	30	3	.....
German language (optional)	60	.....	0.02	0.03
Total	510	90	.....	.....

¹ Composition, questions, and examination.

² Composition, questions, and oral examination.

For military instruction and conduct the coefficients are, respectively, 8 and 6 for each year for the "course" only.

The length of the lessons and of the sessions in drawing is between one hour and an hour and a quarter.

Marking and standing.—The progress made by the different scholars during the year is measured by the marks given to them by the professors and instructors, and which are based on their written work and on the answers to the questions put during the lectures and class instruction.

During the first four months of the year the scholars retain the standing they had at the beginning of the term.

At the end of the first term of four months, and also at the end of the second term of this length, the standing is made out anew. The director of the studies causes to be determined the general average of each scholar. The average for each branch is determined from the marks, the written work, and the drawings, if any drawing is included in the subject.

Marks are also assigned at the end of every four months for conduct and military instruction.

Each subject has its own coefficient, established by the minister of war, for the purpose of determining the classification or standing.

To obtain the general average for any scholar, multiply the average in each subject by the proper coefficient; take the sum of these products and divide by the sum of the coefficients. To the result add the average for any optional study that has been taken, calculated in accordance with the proper coefficient fixed by the minister of war. All those whose general average in the obligatory subjects falls below 10–20 are declared deficient.

The yearly examinations.—At the end of the scholastic year, and before the examinations take place, the averages of the scholars in each branch of study are determined according to the principles already laid down. The marks are also determined for conduct and military instruction.

The votes are taken by the examining subcommittee on each scholar and in each subject. The first vote determines the matter of qualification. After this vote, another is taken to determine the mark to which the scholar is entitled. If he has been declared qualified, each of the three members of the examining subcommittee must assign him a mark not lower than 10 and not higher than 20. If he has been declared not qualified, each member must assign him a mark between 0 and 9. The definite mark is the arithmetical mean of the marks given by the three examiners.

To determine the final general average, on which depends the standing, multiply the annual average in each subject by the proper coefficient, and also the average on examination by the prescribed coefficient; take the sum of the products and divide by the total sum of all the

coefficients. The general average thus obtained is increased by the average gained on optional subjects, if any.

Every scholar is declared qualified on examination when he obtains on every subject of examination a mark not less than 10-20, including the averages for conduct and military instruction.

A written examination in Italian literature will precede all the other examinations; any scholar who does not obtain on this examination a mark of at least 10-20 will not be admitted to the oral examination in the same subject.

Any scholar who is declared deficient in any subject is entitled to a reexamination in this subject, provided that his final general average is not less than 12-20. In other cases, scholars who are not qualified must repeat the year's course, unless they have already been turned back a year, in which case they are either transferred to some corps or regiment in the army to serve out their time (see page 14) or to the military school.

The scholars who fail in the first or second year's examination of the military academy have the option of entering the corresponding class of the military school. Those who fail on the graduating examination, and who can not or do not wish to repeat the course, have the same rights with regard to promotion as if they had graduated at the military school.

Assignment on graduation.—The graduates of the military academy who are appointed second lieutenants are assigned to the artillery or engineers in accordance, as far as possible, with their own applications. However, the minister has the power to make assignments according to what he may deem the interests of the service, taking into account only the particular aptitude of the officer and disregarding his application for assignment to one corps or the other.

Before being assigned to regiments and before doing duty with troops, the graduates of the military academy who are appointed second lieutenants are sent to the school of application of artillery and engineers to finish their professional education. Here the officers of the two arms follow separate courses of instruction, and their seniority in their own arms depends on their standing when they finish this professional course.

Military organization, etc.—The scholars are organized into companies, which are divided into sections. The third company is formed of the scholars of the first year or lowest class, the second company corresponds to the second year, and the first company to the scholars of the third year. The sections into which the companies are divided are approximately equal.

The commanding officers of the companies and the lieutenants are respectively captains and lieutenants detailed from the army.

The three companies united constitute the cadet brigade.

The acting noncommissioned officers "*capi-scelti* and *scelti*" are detailed from the cadets, one "*capo-scelto*" and a number of "*scelti*"

to each company. They are taken from the cadets of the third year or highest class.

In the way of practical instruction the scholars of the second and third years are exercised in riding three times a week, and the scholars of all three classes receive every week three lessons in fencing and two in gymnastics. They have besides such drills and practical military instruction as are necessary to fit them for their special arms.

Vacations.—There is an ordinary vacation or furlough every year, in the interval between the end of one course and the commencement of the next. For such cadets as have been promoted a class, the maximum length of this vacation is thirty days. For those who are to be reexamined, the vacation is curtailed more or less, according to circumstances, and the commandant of the academy may deprive any cadet of his whole vacation on account of bad conduct, etc.

Modification in the organization of the academy.—Among the reforms projected in the royal decree of the 6th of November, 1894, was the consolidation of the military academy and the school of application of artillery and engineers. At the present time (April 25, 1895) this decree has not yet been approved by Parliament, and may possibly never be carried out.

AUSTRIA.

The military schools in Austria which correspond most closely to the United States Military Academy are the Theresa Military Academy of Wiener-Neustadt, and the Technical Military Academy of Vienna.

Before proceeding to a description of either of these schools, a brief reference will be necessary to the schools which prepare for these academies, which are called military “Realschulen” or technical schools. Though these schools are specially intended to prepare for the military academies, there is nothing to prevent boys from getting their preparation in other “Realschulen” or in private educational establishments. The “Realschulen” generally in Austria and Germany are intended to lay the basis for a scientific education, or what in France is called “l'enseignement moderne.” The classical schools are called “Gymnasia.”

The course at the military real schools is seven years, of which four are passed in the “Unter-Realschule,” and three years in the “Ober-Realschule.” There are four of these under technical schools, situated respectively at St. Polten, Guns, Eisenstadt, and Kaschau. They have in all a capacity of about 860 scholars. The superior technical school is at Weisskirchen. It has a capacity of 450 scholars.

The military technical schools also prepare for what are called the “Cadetten-Schulen” or cadet schools. The graduates of the cadet

schools do not enter the army as officers, but are assigned to corps and regiments as cadets, with the actual or honorary position of noncommissioned officers. As vacancies occur, they are appointed "Cadet-Officers-Strelvertreter" (cadet officers' substitutes), in which position they exercise the functions of officers and associate with them without actually having officers' rank. After a probationary period in this position, they may be nominated by the Emperor to be lieutenants of the lowest grade, in their respective corps, but they must be acceptable to the officers of the unit where they have been on probation.

Armed with what is called the matura certificate, the graduate of the "Ober-Realschule" is entitled to apply for appointment to one of the military academies. In these appointments preference is given to officers' sons first, and then to sons of officials. The standing of at least "good" is required for admission to the academies. Of the graduates with this standing about 60 per cent are promoted to the Theresa Military Academy and about 40 per cent to the Technical Military Academy. Graduates of the "Ober-Realschule," with only "sufficient" standing, are generally sent to the second class of a cadet school.

The following table, showing the classification list of the "Ober-Realschule" for the year 1888-'89, will illustrate the system of promotion, or recommendation for promotion in the Austrian military schools:

	Class I.			Class II.			Class III.			Total
	A.	B.	C.	A.	B.	C.	A.	B.	C.	
Excellent	1	2	1	2	2	1	4	2	2	18
Very good	5	2	3	4	8	4	6	7	10	54
Good	24	28	25	28	27	30	23	26	26	238
Sufficient	16	13	12	9	2	4	7	4	2	78
Insufficient	3	2	4	2		1			1	13
Unclassified	1	2	4	1	1	1			1	10
Total	50	48	49	46	47	45	43	44	42	416
	147			136			138			
Ordered promoted a class	45	44	40	43	44	41				257
Reexamination allowed	2	2	5	2		8				18
Discharge asked by parents		1	1							2
Recommended for—										
Theresa Military Academy							22	28	21	71
Technical Military Academy							15	17	25	57
Transfers to cadet schools	1		1		2		5	3	5	14
Turned back one year		1			1					2
Dismissal	1		1	1						3
Discharge, physical disability								1		1
Furlough for six months	1									1
Transfer to naval school						1				1
Total	50	48	49	46	47	45	43	44	42	416
	147			136			138			

Boys enter the "Unter-Realschule" at the age of about ten. The seven-years' course comprises three groups of subjects of instruction, viz:

Group A: Religious instruction; languages, German, Hungarian or Bohemian (either one). Polish (for boys whose fathers are not citizens of countries of the Hungarian Crown, Polish may be chosen in the Ober-Realschule course instead of Hungarian or Bohemian), French;

geography, history, natural history, physics, chemistry, mathematics (arithmetic and algebra, geometry, geometrical drawing), descriptive geometry, free-hand drawing, calligraphy.

Group B: Drills, target practice, drills and exercises in field service, gymnastics, fencing, games, including skating, swimming.

Group C: Service regulations, deportment and sanitary instructions, singing and music, dancing.

The instruction in the Realschulen is extremely thorough. Those who do not pass the yearly examinations in July are turned back a year in their classes, or may be sent away. By the time the "Ober-Real" course is reached, a sufficient number has been weeded out to prevent any crowding of the course.

THE MILITARY ACADEMIES.

The Theresa Military Academy of Wiener-Neustadt educates officers for the infantry, rifles, and cavalry; the Technical Military Academy of Vienna educates officers for the artillery, engineers, and technical troops (including the railway and telegraph troops).

ADMISSION TO THE MILITARY ACADEMIES.

The different kinds of places at the military academies are: (1) "Ararial" (imperial or treasury) places, wholly or half free; (2) "Stiftungs" (foundation or endowment) places; (3) paying places.

These different kinds of places are at the disposal of the imperial war ministry or the ministries of national defense of Austria and Hungary. The places for which there are endowments of private funds are disposed of in accordance with the stipulations of the letter of donation. The "Ararial" places are given directly by the Emperor. In awarding these places preference is given to the sons of officers, and then to the sons of officials.

The "Stiftungs" places are disposed of by competitive examination, the persons who are allowed to compete being designated by the state, county, or other authorities or the corporations or private individuals interested.

Board (Kostgeld).—The price of board is 800 gulden yearly (about \$320) at both academies, or half that amount for the half-free places. Besides the board money, a payment of 14 gulden at the beginning of each school year is required from each aspirant admitted to a military academy or military technical school. This is called "school money."

Qualifications for admission.—Aspirants must not be under 17 nor over 20 years of age on the 1st of September of the year they enter. These limits are the same for both academies. They must possess Austrian or Hungarian citizenship (foreigners may be admitted by special permission of the Emperor, under certain conditions). They must possess also physical fitness for military training and satisfactory moral character.

Applications for places.—These applications must be before the proper authorities by the 15th of May in each year. The necessary accom-

panying papers are: (1) A certificate of domicile; (2) a baptismal or birth certificate; (3) a military surgical certificate; (4) the proper school certificate.

The surgical certificate filed with the application for a place will not of itself be sufficient to secure entrance to either academy. The applicant must, in addition, pass a medical examination at the academy immediately after his arrival.

Applicants who are passed at this surgical examination are then admitted to the regular entrance examination.

Only the aspirants coming from private educational establishments are required to pass the complete entrance examination. To enter the Technical Military Academy, however, the "Ober-Realschule" graduates must pass an examination in descriptive geometry. Otherwise, the "Ober-Realschule" graduating certificate, with the notation with at least "good," is sufficient for admission.

The full examinations for the civil scholars in both academies are as follows:

I.—MILITARY ACADEMY OF WIENER-NEUSTADT.

[The Theresa Military Academy.]

(a) *German language*.—Oral: Free delivery of a given and studied theme; different kinds of periods and expressions; knowledge of the principal periods of German literary history, and of the prominent Austrian writers of the nineteenth century. Written: Paragraphs on historical, religious, and biographical themes; logical arrangement of matter in larger periods in a given theme.

(b) *Geography*.—Thorough acquaintance with the physical and political geography of Europe, especially of the states bordering on Austria-Hungary, including the statistical military conditions of the latter, and an acquaintance with the Austro-Hungarian monarchy in all its details; general knowledge of other parts of the world, with special reference to European colonies; knowledge of mathematical and physical geography. The aspirant must be able to give a good graphical representation of the continent of Europe and especially of central Europe. Best text-book, Sonklar's "Geographie für die k. u. k. Militar Real-und Cadettenschulen."

(c) *History*.—Knowledge of the principal historical events of ancient times, of the Middle Ages, and of modern times down to the present, a correct comprehension of the correlation of these events, with special reference to the development of Austria-Hungary. Text-books recommended: "Lehrbuch der allgemeinen Geschichte für die k. u. k. Cadettenschulen," or A. Gindely's "Lehrbuch der allgemeinen Geschichte für Obergymnasien."

(d) *Physics*.—General and special properties of bodies; mechanics of solid, fluid, and gaseous bodies; wave motion, acoustics, optics, heat, magnetism, and electricity, with the elementary mathematical treatment of these subjects. (See the text-books recommended for the Ober-Realschule course by Handl.)

(e) *Chemistry*.—Same as the course for the third year of the Ober-Realschule course. This course includes the elements of organic and inorganic chemistry, and also a knowledge of the synthesis of the more important carbon compounds. (See the text-books recommended for the higher grades of the middle schools by Roscoe.)

(f) *Mathematics*.—Arithmetic and algebra, including the solution of equations of the second degree with one or two unknown quantities, arithmetical and geometrical progressions, and the theory of combinations, binomial theorem.

Geometry.—Planimetry, stereometry, plane and spherical trigonometry, elements of analytical geometry, including right lines and conic sections. Text-book recommended, Moenik's *Lehrbücher für Oberclassen*.

(g) *Calligraphy*.—Good, legible, pleasing, and easy-running style of handwriting, in both German and Latin characters.

II.—THE TECHNICAL MILITARY ACADEMY.

The same requirements as for the Theresa Military Academy in Wiener-Neustadt, with the addition of descriptive geometry.

Various relations of points, right lines, and planes; representation of polyhedrons, their plane and other sections; representation of curved lines, curved surfaces, and their plane and other sections; tangent planes to curved surfaces; shades and shadows.

Although scholars may be admitted to any class of the Real-Schulen on passing the required examination for that year, no one is allowed to “pass up” a year at the military academies. Aspirants are only admitted to the academies in the first year, or lowest class.

COURSES OF INSTRUCTION AT THE MILITARY ACADEMIES.

Rating and marking.—There are five different ratings in the Austrian military schools, and to each rating is assigned a numerical value, as follows:

“Vorzüglich,” or excellent.....	5
“Sehr gut,” or very good.....	4
“Gut,” or good.....	3
“Genügend,” or sufficient.....	2
“Ungenügend,” or insufficient.....	1
“Schlecht,” or bad.....	0

In order to be graded as “excellent” the average in any subject must be equal to at least 4½, or, more correctly, must exceed 4½.

To determine, for instance, the minimum credit which will insure the rating excellent, take the sum of the number of subjects of instruction in the Group A, for the particular school and year; multiply this sum by 9, and divide the product by 2. When this dividend is divisible by 2, then the half plus 1 will be the minimum credit; when it is not divisible by 2, then the “grössere Hälfte,” or the half plus one-half, will be the minimum credit.

In a similar manner is determined the minimum credit for the ratings “very good” and “good.” In the first case the multiplier is 7, in the last case 5. To obtain the minimum credit for the rating of “sufficient,” multiply the sum of the number of subjects of instruction by 2.

The following table exhibits the minimum credit for all these ratings at both of the academies:

Minimum credit for number of subjects of instruction of the Group A of the curriculum.

No.	Name of school.	Class.	Excel- lent.	Very good.	Good.	Suffi- cient.
12 } 16 } 22 }	Theresa Military Academy.....	I II III	55 73 100	43 57 78	31 41 56	24 32 44
11 } 18 } 23 }	Technical Military Academy: Artillery division.....	I II III	50 82 104	39 64 81	28 46 58	22 36 46
11 } 17 } 23 }	Engineer division.....	I II III	50 77 100	39 60 78	28 43 56	22 34 44

The length of the whole course of instruction at both academies is three years.

The school year, which at both academies begins on the 18th of September and ends on the 17th of August, is divided into a theoretical and a practical course; the theoretical course is divided into a winter and a summer semester.

The theoretical course at the Theresa Military Academy lasts till the 30th of June, and at the Technical Military Academy till the 31st of May; the rest of the school year forms the practical course; one month is allowed for the vacation.

The subjects of instruction at the two academies and the division of these subjects among the different years of the course are indicated by the following table:

Subjects	Theresa Military Academy.			Technical Military Academy.					
				Artillery division.			Engineer division.		
	Class I.	Class II.	Class III.	Class I.	Class II.	Class III.	Class I.	Class II.	Class III.
GROUP A.									
Military correspondence	1	1	1	1	1	1	1	1	1
Hungarian or Bohemian language	1	1	1	1	1	1	1	1	1
French language	1	1	1	1	1	1	1	1	1
Geography		1	1		1			1	1
General military history			1			1			1
Physics						1			1
Physics and technology			1						
Chemistry and technology				1	1	1	1	1	1
Higher mathematics	1	1	1	1	1	1	1	1	1
Practical geometry	1	1	1	1	1	1	1	1	1
Descriptive geometry	1	1	1	1	1	1	1	1	1
Architecture									
Law									
Army organization		1	1		1	1		1	1
Military administration			1			1			1
Artillery instruction				1	1	1			
Study of arms	1	1	1		1	1	1	1	1
Technical instruction								1	1
Pioneer service	1	1	1		1	1			
Fortification and attack, and defense of fortifications		1	1		1	1		1	1
Drill regulations:									
Infantry	1	1	1					1	1
Cavalry		1	1						
Artillery					1	1			
Tactics		1	1		1	1		1	1
Service regulations	1	1	1	1	1	1	1	1	1
Horses and veterinary service			1			1			
Study of ground and representation of ground	1	1	1	1	1	1		1	1
Free-hand drawing	1	1	1	1	1	1		1	1
Total instructions in each year	12	15	22	11	18	23	11	17	25
GROUP B.									
Drills and field-service exercises	1	1	1	1	1	1	1	1	1
Gymnastics	1	1	1	1	1	1	1	1	1
Fencing	1	1	1	1	1	1	1	1	1
Riding			1			1			1
Total instructions	3	3	4	3	4	4	3	3	4
GROUP C.									
Service regulations and deportment	1	1	1	1	1	1	1	1	1
Sanitary affairs			1			1			1
Swimming	1	1	1	1	1	1	1	1	1
Singing and music	1	1	1	1	1	1	1	1	1
Dancing	1	1	1	1	1	1	1	1	1
Total instructions	4	4	5	4	4	5	4	4	5

The course of instruction has been slightly changed from the above scheme, but the changes, though not exactly known, are of small importance.

The higher mathematics taught at the Theresa Military Academy comprise (1) algebraic analysis, (2) analytical geometry of two and three dimensions, and (3) differential and integral calculus. At the Technical Military Academy the course comprises the same branches, but a greater amount of time is devoted to the subject.

Assignment of the students to courses.—At the Theresa Military Academy the course of the first two years is common for all of the students, but in the third year the pupils are assigned to the cavalry or infantry *Abtheilungs* according to their fitness for the mounted or dismounted service. At the Technical Military Academy the pupils upon entering are at once assigned to the Engineer or the Artillery *Abtheilung*, with a view to a special training for one or the other arm of the service. The division is continued up to the end of the course.

Organization for military instruction, etc.—At the Theresa Military Academy the pupils are organized into an infantry half battalion (two companies), officered from the army; a part of the first (upper) classes formed into a platoon for cavalry instruction, to which all the pupils of this class are assigned by turns.

The half battalion of the Technical Military Academy consists of one engineer company and one artillery company. It should be mentioned that there is at the Technical Military Academy a “Supernumerary *Abtheilung*,” the students of which have been judged not fit for active military service. They are under training for the branches of the administrative services.

Graduation and obligation to serve in the army.—Graduates of the military academies whose standing is at least “good” are assigned to the army as lieutenants; those whose standing is at least “satisfactory” enter as cadets, and those below the rating of satisfactory are assigned to the army as noncommissioned officers.

Graduates who have held “*ararial*” or “*stiftungs*” places are bound to serve in the army one year for every full year’s instruction in the military schools or academies; those who have held half-free “*ararial*” places must serve half a year for every full year of instruction, plus the three years’ regular service, but no pupil who has held a free place is obliged to serve more than ten years, and no one who has held a half-free place is obliged to serve more than seven years in the army.

Such pupils as change from a place of one kind to another during the course of instruction are bound by the service obligation attached to the last kind of place held; but in this case the total time of obligatory service is not to exceed seven years.

Those pupils who for any reason leave any of the military educational establishments without completing the course of instruction are only obliged to serve their regular time with the colors (three years).

The number of students in each of the academies for the year 1895 is fixed in the army list as follows: Theresa Military Academy, 450; Technical Military Academy, 279.

These numbers are hardly ever equaled; for instance, the budget for 1895 appropriates for only 400 at the Theresa Academy and 230 at the Technical Military Academy.

In the two military academies the number of "stiftungs" places amounts to 107; the total number of "pay places" is 75, and of the half-free places, 13. The remaining places, amounting to about 450, are apparently all "ararial" or free places.

ENGLAND.

The schools which correspond most nearly to the United States Military Academy are the Royal Military Academy, at Woolwich, and the Royal Military College, at Sandhurst.

I.—THE ROYAL MILITARY ACADEMY.

1. This institution is maintained for the purpose of affording a special military education to candidates for commissions in the royal artillery and royal engineers. Candidates must, in the opinion of the commander in chief, be in all respects suitable to hold commissions in the army.

2. *Regulations for admission.*—Admission to the Royal Military Academy as cadets will be granted to the successful candidates at an open competitive examination.

The number of cadets admitted to the academy will vary according to the requirements of the service, and notice will be given from time to time of the number of vacancies open to competition. At the examination which commenced June 26, 1894, the number of vacancies to be competed for was 50.

The dates of admission will be on the Thursday of the week in which the 17th of March or 24th of September falls each year.

The examination of candidates for admission to the academy will be conducted by the civil service commissioners. The examinations will be held in London and at such other centers as the commissioners may appoint. (Fees are from £1 to £3.)

The number of trials allowed will not exceed three.

The successful candidates will be inspected by a medical board, and no candidate will be considered eligible for admission to the academy unless certified by the board to be free from bodily defects or ailments, and in all respects fit for Her Majesty's service.¹

¹ The present minimum standard for officers is 5 feet 4 inches in height, and 33 inches chest measurement.

The limits of age for admission to the academy will be from 16 to 18. Candidates must be within those limits of age on the 1st of July for the summer examination and on the 1st of December for the winter examination.

3. *Examinations.*—The examinations will be held half-yearly, and will commence in June and November; due notice will be given of the dates of the examination, and every candidate for those examinations must send to the military secretary, on a date not later than the 15th of May or 15th of October, respectively, an application in his own handwriting to attend the examination. Candidates will be supplied with a “form of particulars,” which should be carefully filled up and signed, and returned without delay to the military secretary, accompanied by the following papers:

(a) An extract from the Register of his birth (or an equivalent legal paper).

(b) A certificate of good moral character, signed by the tutors or heads of the schools or colleges at which he received his education for the four years immediately preceding the date of application, or some other satisfactory proof of good moral character.

(c) If the candidate holds a commission in the militia, a recommendation from the commanding officer of the regiment.

4. The subjects of the examination and the maximum number of marks obtainable for each subject will be as follows:

CLASS I.

(1) Mathematics: (a) Arithmetic, including vulgar and decimal fractions, proportion, and simple interest; (b) algebra, up to and including the binomial theorem; the theory and use of logarithms; (c) Euclid, Books I to IV, and VI; (d) plane trigonometry, up to and including solution of triangles and mensuration; (e) statics; the equilibrium of forces acting in one plane and of parallel forces, the center of gravity, the mechanical powers; dynamics—uniform, uniformly accelerated, and uniform circular motion, falling bodies, and projectiles in vacuo. Analytical methods of solution will not be required; 3,500 marks.

(2) Latin (analytical methods of solution will not be required), 2,000 marks.

(3) French or German (200 for colloquial) (analytical methods of solution will not be required), 2,000 marks.

(4) English composition, including spelling and handwriting (analytical methods of solution will not be required), 1,000 marks.

(5) Drawing, geometrical, including spelling and handwriting (analytical methods of solution will not be required), 1,000 marks.

Candidates will be required to show a satisfactory knowledge of each of the above-mentioned branches of mathematics, and must also obtain such an aggregate of marks in the subjects of Class I as may satisfy the civil service commissioners. Candidates who have previously to January 1, 1894, passed the army preliminary,¹ or any other of the examinations which have hitherto been accepted as equivalent thereto, will not be rejected for failing to qualify in arithmetic, or to obtain the aggregate required in Class I.

¹Formerly the entrance examination for Woolwich was divided into the “preliminary” and the “further” examinations. The present regulations, which went into effect January 1, 1894, abolished the “army preliminary examination.” It covered much the same subjects as those mentioned in the present Class I.

CLASS II.

(1) Higher mathematics: In all the following subjects a great importance will be attached to accuracy in numerical results: Further questions and problems on the subjects of the obligatory examination: Statics, problems, and exercises will be extended to friction; the graphical or geometrical method of treating such problems should be studied, as well as the analytical; no application of the differential calculus to statics will be required. Dynamics, problems, and exercises will be extended to collisions and work. (Analytical methods of solution, but not the use of the differential calculus, will be involved.) Analytical geometry, problems on straight line and circle. Conic sections, elementary properties, with easy problems, both on the analytical and geometrical methods, 2,000 marks.

(2) German or French, as alternating with subject 3, in Class I (200 for colloquial), 2,000 marks.

(3) Greek, 2,000 marks.

(4) English history: There will be set one general paper; one paper limited to a fixed period, of which notice will be given, 2,000 marks.

(5) Chemistry: Elements of inorganic chemistry, 2,000 marks.

(6) Physics: Elementary properties of electricity, magnetism, heat, light, and sound, 2,000 marks.

(7) Physiography and geology, 2,000 marks.

In each of the subjects (5), (6), and (7) the examination will be partly practical.

Only two of the subjects in Class II can be taken up.

CLASS III.

(1) Geography, 500 marks.

(2) Drawing, free-hand, 500 marks.

Both these subjects may be taken up.

The number of marks allowed to each candidate in the several subjects in which he has been examined will be summed up, and the resulting total will determine the place of the candidate in the competitive list, the successful candidates being those who stand at the head of the list up to the number of cadetships competed for.

5. Time-table, June, 1894.—The examinations covered the time from the 28th June to the 7th July, inclusive, the hours of attendance being from 10 a. m. to 5.30 p. m., with an intermission for lunch.

The medical examination of the successful candidates takes place after the result of the examination has been announced, and is held in London.

NOTE.—Some of the rules prescribed for the conduct of the examinations are as follows:

No candidate may quit the examination room until the expiration of half an hour from the time fixed for the commencement of the paper on which he is engaged.

No candidate who has left the examination room during the hours assigned to paper work may return to the paper which he has quitted without special permission, obtained before he leaves the room. In such cases the commissioners will decide whether marks can be allotted.

During the whole of the examination each candidate will be designated by the number assigned to him on the time table, and he must write this number (not his name) on every paper which he sends in.

Extract from table of marks showing the marks obtained by the successful candidates for admission to the Royal Military Academy, Woolwich, June, 1894.

I.—SUCCESSFUL CANDIDATES.

Number in order of merit	Number in examination	Name	Class I (obligatory).					Class II (any two may be taken up.)										Total.	
			Mathematics.	Alternative			Geometrical drawing, etc.	Total, Class I.	Alternative.					Total, Class II.					
				Latin	French.	German.			English composition, etc.	Higher mathematics.	German	French	Greek	English history	Chemistry.	Physics.	Physiography and geology.		Geography.	Free-hand drawing.
1	217	Moore J. O. H.	3,500	2,000	2,000	1,000	1,000	1,000	1,000	1,000	2,000	2,000	2,000	2,000	2,000	2,000	500	500	14,500
2	10	Kidnune-Brown T. R.	3,102	1,156	1,218	731	836	6,843	1,755	.....	.....	.....	.....	.....	.....	.....	.....	202	30,829
50	296	Haug A. G.	2,601	1,569	1,515	843	715	7,263	1,415	1,588	.....	.....	.....	.....	.....	.....	385	212	10,813
			2,397	1,478	1,030	700	458	5,063	.....	1,255	.....	940	.....	.....	.....	.....	102	161	8,571

II.—UNSUCCESSFUL CANDIDATES QUALIFIED.

[May be exempted from further examination if nominated to the Royal Military College as Queen's cadets, Indian cadets, pages of honor, or from the militia for commission in the army.]

51	286	2,044	1,210	1,218	.....	661	375	6,108	1,115	907	.....	105	203	8,538
138	140	1,807	498	505	.....	300	507	3,677	.....	711	.....	140	197	4,905

III.—CANDIDATES NOT QUALIFIED.

[Who failed to qualify in one or more branches of obligatory mathematics, but who may be exempted from further examination if nominated as Queen's cadets, Indian cadets, pages of honor, or from the militia.]

The candidate who passed lowest on this list obtained a total of 4,277

6. *Course of instruction.*—The length of the course of instruction will be two years, divided into four terms.

All the cadets in the third and fourth classes will be educated together. On leaving the third class the cadets promoted to the second class will bifurcate into two separate divisions for artillery and engineers, respectively, which separation will be maintained for the remainder of the course at the academy.

Cadets passing highest on the list of the third class will have the choice of joining the engineer division, so far as the vacancies may be available, with a view to obtaining commissions in the royal engineers; the remainder will be attached to the artillery division, with a view to obtaining commissions in the royal artillery.

When once a cadet has joined any particular division no transfer will, under any circumstances, be allowed.

The following subjects, in addition to drill, riding, and gymnastics, will form the ordinary course of obligatory studies, with the marks assigned to each:

FOURTH AND THIRD CLASSES.

Mathematics, 3,000 marks, including 200 for plates, sketches, and notes.

Field fortification, 2,000 marks, including 400 for plates, sketches, and notes.

Military topography, 2,000 marks, including 800 for plates, sketches, and notes.

French or German, 1,000 marks.

Chemistry and physics, 1,500 marks, including 50 for plates, sketches, and notes.

SECOND AND FIRST CLASSES.

Subjects common to the artillery and engineer divisions.

Military topography, 1,000 marks, including 400 for plates, sketches, and notes.

Tactics, 1,000 marks.

Chemistry and physics, 1,500 marks, including 100 for notes and examples.

Special to artillery division.

Artillery, 2,000 marks, including 200 for plates and notes.

Fortification, 1,000 marks, including 200 for plates and notes.

Special to engineer division.

Fortification, 2,000 marks, including 400 for plates and notes.

Artillery, 1,000 marks, including 100 for plates and notes.

Mathematics, 2,000 marks, including 100 for plates and notes.

Free-hand drawing, 1,000 marks.

In addition to the above obligatory course, every cadet will be allowed, at his option, to take up a voluntary subject in the third and fourth classes—landscape drawing; also to be examined in the third class in an advanced paper in mathematics on the course of the fourth and third classes, and in a paper on the differential and integral calculus.

The maximum marks for these subjects will be 700 for landscape drawing, 0.5 being the counting minimum at each examination, and 400 for each of the mathematical papers above mentioned, 0.4 being the minimum to count marks on each paper.

A cadet will not be allowed to take up or present himself for examination in voluntary mathematics unless the professor reports that he has previously attained a sufficient proficiency in the obligatory mathematics.

The language to be studied by a cadet must be that in which he possesses such proficiency as will enable him to benefit by the advanced instruction given to the class.

7. *Examinations.*—There will be examinations at the end of each term, conducted by independent examiners. A cadet failing to pass satisfactorily at any examination will not get class promotion.

The examination in the third class will cover the fourth and third classes' course, and that of the first class the second and first classes' course.

The examinations are almost always in writing.

At the end of the course those cadets who have passed satisfactory examinations will be entitled to commissions as second lieutenants in the royal artillery from the artillery division, and in the royal engineers from the engineer division.

For class promotion from the fourth class, and also from the third class, a cadet will be required at each examination to obtain 0.5 of the marks in the obligatory course of mathematics and in at least three other obligatory subjects, and 0.5 of the aggregate of marks allotted at that examination for the six obligatory subjects, as shown in Table B.

To count marks in an obligatory subject, at least 0.25 of the total marks for that subject in the examination must be obtained.

The marks allowed to count in the fourth class will be added to those allowed to count in the third class, and the result will determine the order of merit for appointment to the artillery and engineer divisions; but no cadet can be posted to the engineer division who does not obtain 0.5 in fortification in the examination in the fourth and third classes.

For class promotion from the second class, and also for commission at the end of the course, the following qualifications will be required:

Artillery division.—Five-tenths in artillery and in at least three other obligatory subjects and 0.5 of the aggregate of the marks allotted at that examination for the five obligatory subjects, as shown in Table C.

Engineer division.—Five-tenths in fortification and in electricity, and in at least three other subjects, and 0.5 of the aggregate of the marks allotted at that examination for the seven obligatory subjects, as shown in Table C.

To count marks in an obligatory subject at least 0.25 of the total marks for that subject in the examination must be obtained.

The marks allowed to count in the second class will be added to those allowed to count in the first class, and the result will determine the order of merit, and the cadets will be gazetted to their respective corps in the order in which they pass.

8. A cadet will be removed from the academy on the following grounds: (1) If he fall more than one term behind the class with which he originally joined the academy; (2) if he fail to acquire a sufficient proficiency in military exercises.

Exceptions to these rules only allowed on account of illness.

9. *Prizes.*—Prizes will be awarded as follows:

At the end of the first year's course to the cadet who has obtained the highest number of marks in mathematics, French, German, drawing.

At the end of the second year's course to the cadet who has obtained the highest number of marks during the second year's course in artillery division: Artillery, fortification. Engineer division: Mathematics, artillery, fortification. Combined first class: Chemistry and physics, military topography, tactics,¹ free-hand drawing.

A prize for riding and one for gymnastics will be given in the first class to the cadet who shows the greatest proficiency in the same, but no marks will be awarded.

The regular hours at Woolwich are: Reveille, 6.15 a. m.; breakfast, 7.15; studies and drill, 8.15; luncheon, 1.30 p. m.; dinner, 7.30. The detailed time-table is not available.

TABLE B.—Marks, fourth and third classes.

Voluntary subjects.			Obligatory.							Voluntary.		
	Marks.	Counting minim. num.										
1. Landscape drawing	700	.5	Mathematics.	Field fort.	Military topography.	French or German.	Chemistry and physics.	Model drawing.	Total	Landscape drawing.	Advanced paper.	Dissertation and historical exercises.
2. Advanced paper in mathematics	400	.4										
3. Differential integral calculus.....	400											
Fourth class												
Maximum.....			750	500	500	250	500	75	2,575	175		
Minimum.....			375	(*)	(*)	(*)	(*)	(*)	1,267	87		
Third class												
Maximum.....			2,250	1,500	1,500	750	1,000	225	7,225	500	100	50
Minimum.....			1,125	(*)	(*)	(*)	(*)	(*)	3,612	250	100	10

* See page 693.

¹ This subject is voluntary for the artillery division.

TABLE C.—Marks, second and first class

	Engineer and artillery divisions combined			Artillery division.		Engineer division.				Total artillery division	Total engineer division
	Military topography	Tactics.	Chemistry and physics.	Artillery.	Fortification.	Fortification.	Artillery.	Mathematics.	Free-hand drawing.		
Second class											
Maximum	250	250	500	700	250	500	250	1,000	250	\$1,950	3,000
Minimum	(*)	(*)	1250	350	(*)	250	(*)	(*)	(*)	950	1,500
First class											
Maximum	750	750	1,000	1,300	750	1,500	750	1,000	750	\$4,500	6,500
Minimum	(*)	(*)	500	850	(*)	750	(*)	(*)	(*)	2,375	3,250

* See page 660.

† This subject voluntary for artillery division.

‡ Compulsory qualifying subject for engineer division.

§ These figures do not include marks for free hand drawing.

12. The marks are apportioned as follows:

Syllabus of the course of instruction.

MATHEMATICS (ENGINEER DIVISION ONLY).

	Fourth class.	Third class.	Second class.	First class.
Notes, plates, etc.		200		100
Examination	750	2,050	1,000	900
Total	750	2,250	1,000	1,000
Voluntary papers		800		
		3,050		
	3,500		2,000	

FOURTH CLASS.

Subjects.	Marks.	Treatises.
Algebra	150	Hall & Knight's Higher Algebra.
Trigonometry and mensuration	150	Goodwin's or Todhunter's Trigonometry (smaller edition). Brabant's Mensuration.
Analytical geometry.	150	Smith's Conic Sections.
Mechanics	300	Robinson's Treatise.
Total	750	

THIRD CLASS.

Analytical geometry—repetition of the fourth class course	400	See fourth class course.
Mechanics (plates count 200 additional) repetition of fourth class course in dynamics and statics	950	Do.
Applied mechanics—Stability of structures, 200 marks—strength of materials, 200 marks.	400	Crofton's Applied Mechanics, second edition, 1885.
Hydrostatics	300	Besant's Hydrostatics, edition 1892.
Plates (on mechanics)	200	
Total	2,250	
Voluntary mathematics—problems in trigonometry, analytical geometry applied mechanics and hydrostatics, 400 marks—differential and integral calculus, 400 marks	800	Demoivre's Theorem, Smith's Conic Sections; Crofton's Treatise on Applied Mechanics; Besant's Hydrostatics; Greenhill's Treatise on Differential and Integral Calculus, edition 1891

Syllabus of the course of instruction—Continued.

SECOND CLASS, ENGINEER DIVISION.

Subjects.	Marks.	Treatises.
Geometry, including spherical trigonometry..	300	{ Smith's Conic Sections. Spherical Trigonometry, Goodwin's Treatise, fourth edition, 1893. Greenhill's Treatise, edition 1891. Lectures.
Differential and integral calculus	450	
Statics and dynamics	250	
Total	1,000	

FIRST CLASS, ENGINEER DIVISION.

Statics and dynamics.....	400	{ Goodeve's Treatise, edition 1888.
Hydrostatics.....	250	
Mechanism	250	
Plates	100	
Total	1,000	

13. The marks are apportioned as follows:

Fortifications, practical solid geometry, and military engineering.

	Fourth class.	Third class.	Engineer division.		Artillery division.	
			Second class.	First class.	Second class.	First class.
Notes, plates, etc.....	100	300	100	300	50	150
Examination	400	1,200	400	1,200	200	600
Total	500	1,500	500	1,500	250	750

FOURTH CLASS.

Subjects.	Marks.	Treatises.
Practical solid geometry, elementary, orthographic projection.	200	Ross's Practical Solid Geometry, edition 1887, pages 1-28. First six problems, pages 29-33. Text-Book of Fortification and Military Engineering. Part I, edition 1892. Paragraphs 1, 4, 5, 8, 10, 16, 18, 27, 68-91. Also lithographs of works on modern type.
Field fortification.....	200	
Notes, plates, etc.....	100	
Total	500	

THIRD CLASS.

Practical solid geometry, elementary	400	Ross's Practical Solid Geometry, edition 1887. Review of fourth class course. Also Contoured Plans of Parapets, etc. Text-Book of Fortification and Military Engineering. Part I, edition 1892. Review of fourth class course, and as far as paragraph 133. Also lithographs, etc.
Field fortification....	800	
Notes, Plates, etc	300	
Total	1,500	

Fortifications, practical solid geometry, and military engineering—Continued.

ARTILLERY DIVISION, SECOND CLASS.

Subjects.	Marks.	Treatises.
Field fortification (applied).....	200	{Text-book of Fortification and Military Engineering, Part I, edition 1892. Do. Regulations and Instructions for Encampments. Engineering, Part II, edition 1893.
Pioneer duties (applied)		
Camp duties (applied)		
Coast defenses (applied).....	50	
Notes, plates, etc. (applied).....		
Total	250	

ENGINEER DIVISION, SECOND CLASS.

Practical solid geometry (advanced), orthographic projection. Pioneer duties.....	200	Ross's Practical Solid Geometry, edition 1887.
Field fortification (applied).....	200	Text-book of Fortification and Military Engineering, Part I. Do. Regulations and Instructions for Encampments. Text-book of Fortification and Military Engineering, Part II, edition 1893.
Camp duties.....		
Coast defenses.....		
Notes, plates, etc	100	
Total	500	

ARTILLERY DIVISION, FIRST CLASS.

Permanent fortification.....	600	Text-book of Fortification and Military Engineering, Part II, edition 1893.
Attack and defense of forts and fortresses....		
Second-class course, review of and reexamination in.		
Notes, plates, etc	150	
Total	750	

ENGINEER DIVISION, FIRST CLASS.

Permanent fortification.....	1,200	Text-book of Fortification and Military Engineering, Part II, edition 1893.
Attack and defense of forts and fortresses....		
Second-class course, review of and reexamination in, including extra paper for engineer division, covering the whole year's course.		
Notes, plates, etc	300	
Total	1,500	

14. The marks are apportioned as follows:

MILITARY TOPOGRAPHY, FOURTH AND THIRD CLASSES.

	Fourth class.	Third class.
Notes, plates, etc.....	200	600
Examination, indoor.....	300	400
Examination, outdoor; uncountoured sketch by aid of prismatic compass and sketching case.....		500
Total	500	1,500

Fourth-class course: Text-book of military topography, practical work indoor; practical work outdoor.

Third-class course: Text-book of military topography, practical work indoor, practical work outdoor.

MILITARY TOPOGRAPHY, SECOND AND FIRST CLASSES.

	Second class.	First class.
Notes, plates, etc.....	100	300
Examination, indoor.....	150	150
Examination, outdoor; contoured sketch by clino-compass and sketching case.....		300
Total	250	750

Second-class course: Text-book of military topography; practical work, indoor; practical work outdoor.

First-class course: Text-book of military topography; practical work indoor; practical work outdoor.

15. The marks allotted to each of these languages are apportioned as follows:

DISTRIBUTION OF MARKS.

	Fourth class.	Third class.
Written examination:		
Writing from dictation	85	90
Translation from English.....	50	150
Translation into English	45	130
Grammatical questions.....	30	85
Composition	35	115
Oral examination:		
Conversation	30	85
Viva voce translation from English.....	25	75
Total	250	750
	1,000	

16. The marks are apportioned as follows:

CHEMISTRY AND PHYSICS.

	Fourth class.	Third class.	Second class.	First class.
Examination.....	500	950	450	950
Notes, examples, etc.....		50	50	50
Total	1,500		1,500	

FOURTH CLASS.

Subjects.	Marks.	Treatise.
Theoretical chemistry and physics: (a) elementary chemistry and physics; (b) chemistry of metals.	400	Notes on chemistry, practical exercises, and (for chemistry of metals) notes of lectures.
Practical chemistry.....	100	
Total	500	

THIRD CLASS.

Sound, heat, light, and explosives.....	650	Notes on heat; notes on explosives. Practical exercises on chemistry.
Practical chemistry.....	300	
Notes, examples, etc.....	50	
Total	1,000	

17. The marks are apportioned as follows:

Electricity and magnetism.

SECOND CLASS.

Subjects.	Marks.	Treatises.
Theoretical	250	Notes on electricity. Sylvanus Thomson's Electricity for reference.
Practical	200	
Notes, examples, etc.	50	
Total	500	

FIRST CLASS.

Theoretical	550
Practical	400
Notes, examples, etc.	50
Total	1,000

18. The marks are apportioned as follows:

TACTICS (NOT MINOR TACTICS), SECOND AND FIRST CLASSES.

	Examination.
Second class	250
First class	750
Total	1,000

19. The marks are apportioned as follows:

Artillery, second and first classes.

	Artillery division.		Engineer division.	
	Second class.	First class.	Second class.	First class.
Notes, plates, etc	40	160	25	75
Examination	660	1,140	225	675
Total	700	1,300	250	750

Artillery division.

SECOND CLASS.

Subjects.	Marks.	Treatises.
Ordnance	180	Treatise on Ordnance, 1893. Treatise on Ammunition, 1892. Handbook on Gunpowder and Gun Cotton, 1888. Notes on Cordite.
Ammunition	180	
Explosives	100	
Mechanism	200	
Notes, plates, etc.	40	
Total	700	

Artillery division—Continued.

FIRST CLASS.

Subjects.	Marks.	Treatises.
Ordnance	180	Treatise on Ordnance, 1893.
Ammunition	180	Treatise on Ammunition, 1895.
Military carriages	340	Treatise on Military Carriages, 1888.
Principles of gunnery	340	Text book of Gunnery, 1887.
Organization, equipment, and employment of artillery.	100	Field, Siege, and Garrison Artillery drill books; notes and lectures.
Notes, plates, etc.	100	
Total	1,300	

Engineer division.

SECOND CLASS.

Ordnance	125	Treatise on Ordnance, 1893.
Ammunition	100	Treatise on Ammunition, 1892.
Notes, plates, etc.	25	
Total	250	

FIRST CLASS.

Ordnance	125	Treatise on Ordnance, 1893.
Ammunition	100	Treatise on Ammunition, 1892.
Military carriages	200	Treatise on Military Carriages, 1888.
Principles of gunnery	200	Text book of Gunnery, 1887.
Organization, equipment, and employment of artillery.	50	Field, siege, and garrison artillery drill books; notes and lectures.
Notes, plates, etc.	75	
Total	750	

20. *Artillery drills and exercises.*—Artillery division, second class: Field-artillery drill (handbook, 1893.) Field-gun drill. Garrison artillery, Vols. I and II, 1892. First class: Garrison artillery, Vol. I, 1892. 9-inch R. M. L. gun drill. Garrison artillery, Vol. II, 1892. Exercises. Siege-artillery drill, 1891. Exercises. Miscellaneous. Sights and range and position finders.

Engineer division, second class: Field-artillery drill, 1889. Field-gun drill. Garrison-artillery drill, Vol. I. Laying ordnance. 9-inch R. M. L. gun drill. Garrison-artillery drill, Vol. II. Exercises. First class: Garrison-artillery drill, Vol. II. Exercises. Siege-artillery drill, 1891. Exercises. Laying. 6.6-inch R. M. L. gun drill. Miscellaneous. Scott's sight and depression range-finder.

21. *Pay and terms of payment.*—The terms of payment for cadets are regulated by the articles of the royal warrant for pay, etc.

The amount to be contributed on behalf of a cadet at the Royal Military Academy shall depend on the position held by his father. These amounts are payable half-yearly in advance.

The half-yearly contributions range from £150 for the son of a private gentleman, and £80 for the son of a general or admiral, down to £40 for the son of an officer below the rank of lieutenant-colonel in the

army or commander in the navy, the minimum contribution being £20 for the son of a deceased officer whose family has been left in pecuniary distress.

Pay at the rate of 3 shillings a day shall be credited to a cadet to cover the expenses of regimental clothing, messing, washing, and other contingencies. All other necessary expenses, which can not be covered by his pay, shall be chargeable to his parent or guardian in addition to the regulated contribution.

If a cadet be rusticated or removed during a term his daily pay shall cease from the date of such rustication or removal, and the contribution made for the half-year shall be forfeited.

Each cadet, other than a Queen's cadet¹, on first joining, will be required to pay, in addition to the regulated contribution, a sum of £25 toward covering the expense of uniform, books, etc., and to bring with him the articles of clothing of which he will receive notice, and which must afterwards be kept up at his own expense. In addition to the half-yearly contribution in advance, he must also deposit £5 for contingent expenses, which sum he will be required to make up on returning to the academy after each vacation, toward covering any expense that may be incurred on his account during the ensuing half year.

II.—THE ROYAL MILITARY COLLEGE.

1. The Royal Military College is maintained for the purpose of affording a special military education to candidates for commissions in the cavalry and infantry. Candidates must, in the opinion of the commander in chief, be in all respects suitable to hold commissions in the army.

2. *Regulations for admission.*—Admission to the Royal Military College will be granted (a) to successful candidates at a competitive examination; (b) to Queen's cadets, honorary Queen's cadets, Indian cadets, and pages of honor, subject to a qualifying examination.

The other requirements under the head of "regulations for admission" are the same as those set forth for Woolwich under the same head, with the following exceptions and additions:

The dates of admission will be the 10th of February and the 1st of September in each year.

The limits of age for admission to the college will be from 17 to 19. Competitors who desire to obtain commissions in the West India Regi-

¹ A Queen's cadet has no contribution to pay and no admission fee. A Queen's cadet at Woolwich must enter by competitive examination, having no advantage in this respect over the other candidates. At Sandhurst, however, the Queen's cadets have to pass only a qualifying examination. There was only one Queen's cadet at Woolwich last year on the 27th of June, the date of the inspection of the Board of Visitors.

ment may be admitted up to the age of 22 until July, 1894, and up to that of 21 after July, 1894.

3. *Examinations.*—The regulations under this head are the same as those comprised under the same subject, paragraph 3, of the Woolwich examinations.

4. *Subjects of examination.*—The subjects of the examination and the maximum number of marks obtainable for each subject will be as follows:

CLASS I.

(1) *Mathematics:* (a) Arithmetic, including vulgar and decimal fractions, proportion, and simple interest, 3,000 marks; (b) algebra, up to and including the binomial theorem; the theory and use of logarithms, 3,000 marks; (c) Euclid, Books I to IV and VI, 3,000 marks; (d) plane trigonometry, up to and including solution of triangles and mensuration, 3,000 marks.

(2) Latin, 2,000 marks.

(3) French or German (200 for colloquial), 2,000.

(4) English composition, including spelling and handwriting, 1,000 marks.

(5) Drawing, geometrical, 1,000 marks.

Candidates who have not previously to the 1st of January, 1894, passed the army preliminary or other examinations which have been accepted as equivalent thereto, will be required to qualify in arithmetic, and must also obtain such an aggregate of marks in the subjects in Class I as may satisfy the Civil Service Commission.

CLASS II.

(1) *Higher mathematics:* In all the following subjects great importance will be attached to accuracy in numerical results. Further questions and problems on the subjects of the obligatory examination, 2,000 marks. *Statics:* The equilibrium of forces acting in one plane and of parallel forces, the center of gravity, the mechanical powers and friction; the graphical or geometrical method of treating such problems should be studied as well as the analytical; no application of the differential calculus to statics will be required, 2,000 marks. *Dynamics:* Uniform, uniformly accelerated, and uniform circular motion, falling bodies and projectiles in vacuo, collisions and work; analytical methods of solution, but not the use of the differential calculus will be involved, 2,000 marks. *Analytical geometry:* Problems on straight line and circle, 2,000 marks. *Conic sections:* Elementary properties, with easy problems both on the analytical and geometrical methods.

(2) German or French, as alternating with subject 3, of Class I, 200 for colloquial, 2,000 marks.

(3) Greek, 2,000 marks.

(4) English history: There will be set, one general paper, one paper limited to a fixed period, of which notice will be given, 2,000 marks.

(5) Chemistry: Elements of inorganic chemistry, 2,000 marks.

(6) Physics: Elementary properties of electricity, magnetism, heat, light, and sound, 2,000 marks.

(7) Physiography and geology, 2,000 marks.

In each of the subjects (5), (6), and (7), the examination will be partly practical.

Only two of the subjects in Class II can be taken up.

CLASS III.

- (1) Geography, 500 marks.
- (2) Drawing, freehand, 500 marks.

Both these subjects may be taken up.

5. The number of marks allowed to each candidate in the several subjects in which he has been examined will be summed up, and the resulting total will determine the place of the candidate in the competitive list, the successful candidates being those who stand at the head of the list up to the number of cadetships competed for.

(a) At the examination held November 21, 1894, the number of cadetships to be awarded was 101, of which 83 were for the infantry, 14 for the cavalry, and 4 for the West India regiment. These numbers, however, were subject to reduction according to the number of cadetships awarded under paragraph (c). Intending competitors are always to inform the military secretary before the date fixed for the examination whether they elect to be considered candidates for cavalry, or infantry, or staff corps.¹ If within the prescribed limits of age, they may return their names (1) for both infantry and cavalry, expressing a preference for one or the other, or staff corps; (2) for infantry or staff corps; or (3) for cavalry only, or staff corps. Cadetships will be given to successful candidates, subject to the above limitation of numbers, in order of merit, in accordance with the election they have made. In the case of (1) those who have returned their names for both infantry and cavalry, they will be taken for infantry or cavalry in accordance with the preference expressed by them. Candidates must distinctly understand that the election made by them before the examination will be absolutely final, and that it can not be altered after the result of the examination has been declared.

(b) The West India cadetships were awarded in the same manner as heretofore. The number of competitors is usually small, and as the candidates are generally above the regular age of admission to Sandhurst, they can go in for the West India regiment only.

(c) Thirty-five cadetships, with a view to commissions in the Indian staff corps, were awarded to candidates who were obliged to pass a qualifying examination only. Competitors must, when notifying their preference for the cavalry or infantry, as above, state whether they wish, in addition, to be considered candidates for the Indian staff corps. All Queen's cadets (British and Indian) and honorary Queen's cadets, nominated by the secretary of state for India in council, will have the option of electing whether they will join the military college for appointment to the staff corps, or for commissions in British cavalry or infantry. The cadetships remaining, after the claims of the Queen's cadets and honorary Queen's cadets (Indian) have been satisfied, will be allotted in order of merit to successful candidates, other than candidates for the West India regiment, who have elected for the Indian staff corps.

¹ Indian staff corps.

(d) The total number of vacancies each half-year at Sandhurst is 120, and as there are three classes or "educational divisions," the total establishment is 360. Supernumerary cadets are, however, admitted. The number of supernumeraries at the date of the last inspection of the Board of Visitors, June, 1894, was 20.

6. *Queen's cadets, honorary Queen's cadets, Indian cadets, and pages of honor.*—A limited number of the sons of officers, who have earned the privilege by service of a specified nature, are appointed Queen's or honorary Queen's cadets, or Queen's India or honorary Queen's India cadets, and are admitted to Sandhurst on passing a qualifying examination only. The number of admissions of this class is about 18 every half-year.

Pages of honor, youths who have served in the household of the Queen, may also be admitted to Sandhurst, being admitted in the same manner as Queen's cadets.

Queen's cadets will be granted an educational allowance of £40 a year, tenable between the ages of 13 and 17, and they are exempt from the payment of any contribution while at Sandhurst.

With regard to Queen's cadets, the director-general of military education remarks as follows:

The object of giving a money allowance from the age of 13 is to enable the cadet to obtain an education which his mother's means would not otherwise enable her to secure for him. Instead of this it becomes a guaranty for his entering Sandhurst without that education. To give money for education and then to admit on a low qualification seems to me to be illogical.

Queen's India cadets are also exempt from payment at Sandhurst.

The total number of cadets at each rate of contribution at Sandhurst at the time of the inspection by the board of visitors in June, 1894, was as follows:

Who do not pay contribution:		At £70 per annum.....	14
Queen's cadets	12	At £80 per annum.....	1
India cadets.....	22	At £150 per annum.....	195
At £20 per annum.....	5		—
At £40 per annum.....	51	Total	380
At £60 per annum.....	80		

7. *Pay and terms of payment.*—The pay of cadets, and the terms of payment at Sandhurst, are the same as are prescribed for Woolwich, with the exception noted for the privileged cadets.

8. *Time-table, June, 1894.*—The examinations covered the time from the 27th of June to the 7th of July, inclusive, the hours of attendance and the intermission in the middle of the day being practically the same as for the Woolwich examination.

The rules for the conduct of the examination quoted under paragraph 5, Woolwich, note, apply also to the Sandhurst examination.

Extract from table of marks—Competition for admission to the Royal Military College, Sandhurst, June, 1894.

I.—CANDIDATES SUCCESSFUL FOR CAVALRY CADETSHIPS (14).

Number in order of merit.	Number in examination.	Name.	Class I (obligatory).						Class II (any two may be taken up).										Total.						
			Alternative.					(geometrical drawing.	Total, Class I.					Alternative.						English history.	Chemistry.	Physics.	Physiology and geology.	(geography.	Free-hand drawing.
			Mathematics.	Latin.	French.	German.	English composition, including spelling, and writing.		Higher mathematics.	German.	French.	(Greek.	English history.	Chemistry.	Physics.	Physiology and geology.	(geography.	Free-hand drawing.							
		Maximum	3,000	2,000	2,000	2,000	1,000	1,000	1,000	9,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	500	500	14,000		
90	453	A. W. H.	1,666	814	1,495		770	395	5,140														7,966		
126	528	W. A. N.	1,263	1,059	1,387		390	556	4,655														7,486		

II.—CANDIDATES SUCCESSFUL FOR INFANTRY CADETSHIPS (83).

1	754	G. R. P.	2,480	1,149	1,315		625	680	6,249	1,801	1,449										378	349	10,226
86	376	J. H. D.	1,700	1,184	1,068		605	677	5,234		1,105							979			303	391	8,011

III.—QUEEN'S CADETS, AND 2 QUEEN'S INDIA CADETS QUALIFIED.

[The highest with a total of 6,949, the lowest with a total of 4,617.]

Of the unsuccessful candidates, 284 qualified, and consequently were eligible for admission to the college if subsequently appointed Queen's cadets; Nos. 88 and 89 on this list passed higher than any of the successful cavalry candidates, but as they put down their names for infantry only, they were unsuccessful in securing cadetships; the total mark for No. 88 was 8,004; the lowest of the unsuccessful candidates who qualified had a total of 4,002.

9. *Synopsis of course of instruction, etc.*—The length of the course of instruction is one and one-half years, divided into three terms or classes of six months each. The classes are known as seniors, intermediates and juniors.

10. The new syllabus of the course of instruction, 1895, gives the subjects now taught and the list of text-books, but does not give the marks allotted to each nor the subjects studied by the different classes. The old regulations, abolished January 1, 1894, gave the following list of subjects and the following marks:

Military administration, 300 marks.

Military law, 300 marks.

Tactics, including musketry, 600 marks, including 150 for tactical schemes.

Fortification, 900 marks, including 300 for plates, sketches, etc.

Military topography, 800 marks, including 200 for plates, sketches, etc.

Drill, 200 marks.

Riding, 200 marks.

Gymnastics, 200 marks.

The present course of instruction comprises:

Fortification, including artillery and field fortification. (Phillips's Fortification.)

Military topography: Tactics, including musketry. (Cavalry Drill; Field Artillery Drill; Infantry Drill; Clery's Minor Tactics; Musketry Instruction.)

Military administration. (Queen's Regulations; Manual of Military Law; Pay Warrant.)

Military law. (Queen's Regulations; Manual of Military Law.)

Military exercises: (a) Drill. (Infantry Drill, 1893; Musketry Instruction (Lee-Metford), 1894; Rifle Exercises (Lee-Metford), 1892.) (b) Gymnastics. (As laid down in the regulations.) (c) Riding. (In accordance with the system laid down in the cavalry drill.)

Voluntary subjects: Ambulance and stretcher drill, first aid, etc.; range finding; signaling.

11. The following time-table gives an idea of the employment of time in summer and winter:

Summer time-table.

Studies, exercises, etc.	Sunday.	Monday.	Tuesday, Thursday, and Friday.	Wednesday.	Saturday.
Rouse.....	8 a. m...	5.45 a. m.....	5.45 a. m.....	5.45 a. m.....	5.45 a. m.
Drill, riding, and physical training.		6.10 to 7.10 a. m.	6.15 to 7.15 a. m.	6.15 to 7.15 a. m.	
Commandant's parade.....					6.15 to 7.15 a. m.
First study, physical training.....		7.20 to 8.20 a. m.	7.20 to 8.20 a. m.	7.20 to 8.20 a. m.	7.20 to 8.20 a. m.
Breakfast.....	9 a. m...	8.20 a. m.....	8.20 a. m.....	8.20 a. m.....	8.20 a. m.
Hospital attendance.....	9.30 a. m.	8.30 a. m.....	8.30 a. m.....	8.30 a. m.....	8.30 a. m.
Drill and riding.....		9 to 10 a. m...	9 to 10 a. m.....		9 to 10.30 a. m.
Divine-service parade.....	10.30 a. m.				
Extradrill, riding, or gymnastics.....				2 to 3 p. m...	11.30 a. m. to 12.30 p. m.
Second study.....		10.15 a. m. to 2.15 p. m.	10.15 a. m. to 2.15 p. m.	9 a. m. to 1 p. m.	
Luncheon.....	1 p. m...	2.15 p. m.....	2.15 p. m.....	1 p. m.....	1 p. m.
Riding and gymnastics.....		3.15 to 4.15 p. m.	3.15 to 4.15 p. m.		
Riding.....		4.15 to 5.15 p. m.	4.15 to 5.15 p. m.		
Restriction and stoppage of leave, roll call.	5 p. m...				5 p. m.
Sword drill.....		6.15 to 7.15 p. m.	6.15 to 7.15 p. m.		
Mess.....	8 p. m...	7.45 p. m.....	7.45 p. m.....	7.45 p. m.....	8 p. m.
First post.....	9.15 p. m.	9.15 p. m.....	9.15 p. m.....	9.15 p. m.....	9.15 p. m.
Last post.....	9.45 p. m.	9.45 p. m.....	9.45 p. m.....	9.45 p. m.....	9.45 p. m.
Lights out.....	11 p. m...	10 p. m.....	10 p. m.....	10 p. m.....	10 p. m.

Winter time-table.

Studies, exercises, etc.	Sunday.	Monday, Tuesday, Thursday, Friday.	Wednesday.	Saturday.
Rouse.....	8 a. m.....	6.30 a. m.....	6.30 a. m.....	6.30 a. m.
First study, riding or physical training.		7 to 8 a. m.....	7 to 8 a. m.....	7 to 8 a. m.
Breakfast.....	9 a. m.....	8 a. m.....	8 a. m.....	8 a. m.
Hospital attendance.....	9.30 a. m...	8.30 a. m.....	8.30 a. m.....	8.30 a. m.
Parade, riding, and gymnastics.....		9 to 10 a. m.....	9 to 10 a. m.....	
Commandant's parade.....				9 to 10.30 a. m.
Second study.....		10.15 a. m. to 1.45 p. m.	10.15 a. m. to 1.45 p. m.	
Divine service parade.....	10.30 a. m			
Extra drill, riding, and gymnastics.....			2.30 to 3.30 p. m.	12 m. to 1 p. m.
Extra study.....				12 m. to 1 p. m.
Luncheon.....	1 p. m.....	1.45 p. m.....	1.45 p. m.....	1 p. m.
Parade, riding, and sword drill.....		4.15 to 5.15 p. m.		
Gymnastics.....		5.15 to 6.15 p. m.		
Restriction drill or roll call.....	5 and 9.30 p. m.		Drill, 3 to 4 p. m.	Drill, 12 m. and 3 to 4 p. m.; roll call, 5 p. m.
Stoppage of leave roll call.....	5 p. m.....			5 p. m.
Private study:				
First and second divisions.....		6 to 7.15 p. m...		
Third division.....		6.30 to 7.15 p. m.		
Gymnastics.....		6.15 to 7.15 p. m.		
Mess.....	8 p. m.....	7.45 p. m.....	7.45 p. m.....	9.30 p. m.
First post.....	10.15 p. m.	9.45 p. m.....	9.45 p. m.....	10.15 p. m.
Last post.....	10.45 p. m.	10.15 p. m.....	10.15 p. m.....	10.45 p. m.
Lights out.....	11 p. m.....	10.30 p. m.....	10.30 p. m.....	11 p. m.

Programme of the studies and exercises for the week ending February 23, 1893.

Day and number of educational division.	First study: riding and physical training, 7 to 8 a. m.		Parade riding and gymnastics, 9 to 10 a. m.
	Branch.	Work.	
Monday:			
1.....	Tactics, etc.....	Lecture: Military law	A and B, riding: C, D, E, and F, drill.
2.....	Military topography.....	A and B, riding: C, D, E, and F, physical training.	A and B, gymnastics: C, D, E, and F, drill.
3.....	Fortification.....	Lecture: Fortification	Drill.
Tuesday:			
1.....	Fortification.....	Lecture: Fortification	C and D, riding: A, B, E, and F, drill.
2.....	Tactics, etc.....	C and D, riding: A, B, E, and F, physical training.	C and D, gymnastics: A, B, E, and F, drill.
3.....	Military topography.....	Lecture: Military topography.	Drill.
Wednesday:			
1.....	Military topography.....	Lecture: Military topography	E and F, riding: A, B, C, and D, drill.
2.....	Fortification.....	E and F, riding: A, B, C, and D, physical training.	E and F, gymnastics: A, B, C, and D, drill.
3.....	Tactics, etc.....	Lecture: Administration ...	Drill.
Thursday:			
1.....	Tactics etc.....	Lecture: Tactics.....	A and B, riding: C, D, E, and F, drill.
2.....	Military topography.....	A and B, riding: C, D, E, and F, physical training.	A and B, gymnastics: C, D, E, and F, drill.
3.....	Fortification.....	Lecture: Fortification	Drill.
Friday:			
1.....	Fortification.....	Lecture: Fortification	C and D, riding: A, B, E, and F, drill.
2.....	Tactics, etc.....	C and D, riding: A, B, E, and F, physical training.	C and D, gymnastics: A, B, E, and F, drill.
3.....	Military topography.....	Lecture: Military topography.	Drill.
Saturday:			
1.....	Fortification.....	Lecture: Fortification	Commandant's parade, 9 a. m. to 10.30 a. m.
2.....		E and F, riding: A, B, C, and D, physical training.	
3.....	Military topography.....	Lecture: Military topography.	

Day and number of educational division.	Second study, 10.15 a. m. to 1.45 p. m.		Parade, riding, and sword drill, 2.45 to 3.45 p. m.	
Monday:				
1.....	Tactics, etc.; class instruction.....		C and D, riding: A and B, sword drill.	
2.....	Military topography: class instruction.....		Drill.	
3.....	Fortification: geometrical drawing, Plate II, 10.15 to 12; notes artillery or class instruction, 12 to 1.45.		Do.	
Tuesday:				
1.....	Fortification: class instruction, 10.15 to 12; field fortification, Plate III, 12 to 1.45.		E and F, riding: C and D, sword drill.	
2.....	Tactics, etc.; lecture on military law, 12.45, and class instruction.		Drill.	
3.....	Field military topography; class instruction.....		Do.	
Wednesday:				
1.....	Military topography: class instruction.....		E and F, riding: A and B, sword drill.	
2.....	Fortification: lecture 10.15 to 11 a. m.; field fortification, Plate I, 11 a. m. to 1.45 p. m.			
3.....	Tactics, etc.; class instruction.....			
Thursday:				
1.....	Tactics, etc.; class instruction		E and F, riding: A and B, sword drill.	
2.....	Military topography: class instruction.....		Drill.	
3.....	Fortification: geometrical drawing, Plate II, 10.15 to 1.45; class instruction as required.		Do.	
Friday:				
1.....	Fortification: field fortification, Plate III, Class I H. of D., Class II H. of D.		A and B, riding: C and D, sword drill.	
2.....	Tactics, etc.; lecture on tactics, 12.45, and class instruction.		Drill.	
3.....	Military topography: class instruction.....		Do.	
Saturday:				
1.....				
2.....				
3.....				

Programme of the studies and exercises for the week ending February 23, 1895—Continued.

Day and number of educational division.	Riding and sword drill, 4.15 to 5.15 p. m.	Study, 5.15 to 6; gymnastics, 5.15 to 6.15 p. m.	Private study, Divisions I and II, 6 to 7.15 p. m.; Division III (part), 6.30 to 7.15 p. m.	Gymnastics, Division III (part), 6.15 to 7.15 p. m.
Monday:				
1.....	E and F, riding; C and D, sword drill.	.....	Tactics, etc.....	D, E, and F.
2.....	.....	.....	Military topography..	
3.....	.....	A, B, and C, gymnastics; D, E, and F, fortification; notes, artillery.	A, B, and C, fortification; notes, artillery.	
Tuesday:				
1.....	A and B, riding; C and D, sword drill.	.....	Fortification; notes, X	A, B, and C.
2.....	.....	.....	Tactics, etc.....	
3.....	.....	A, B, and C, military topography; D, E, and F, gymnastics.	D, E, and F, military topography.	
Wednesday:				
1.....	.....	.....	.....
2.....	.....	.....	.....
3.....	.....	.....	.....
Thursday:				
1.....	C and D, riding; E and F, sword drill.	.....	Tactics, etc.....	D, E, and F.
2.....	.....	.....	Military topography..	
3.....	.....	A, B, and C, gymnastics; D, E, and F, fortification; notes, artillery.	A, B, and C, fortification; notes, artillery.	
Friday:				
1.....	E and F, riding; A and B, sword drill.	.....	Fortification; notes, VII.	A, B, and C.
2.....	.....	.....	Tactics, etc.	
3.....	.....	A, B, and C, military topography; D, E, F, gymnastics.	D, E, and F, military topography.	
Saturday:				
1.....	.....	.....	.....
2.....	.....	.....	.....
3.....	.....	.....	.....

NOTE.—The letters A, B, C, D, E, and F are the designations of the six companies into which the cadets are divided, each company being about 60 strong; each of these companies contains a subdivision of about 20 from each of the three educational divisions or classes of the college.

12. The headwork or intellectual work at Sandhurst takes up only about four hours each day, but the time of the cadets is taken up in some way or another, from 7 in the morning until about 5 in the afternoon, for four days of the week, and from 7 a. m. to 1 p. m. on two days of the week. The afternoons on which there are no military exercises or studies are Saturday and Wednesday, and cadets who are not under restriction are generally given leave from Saturday noon to Monday morning.

Although the course is nominally eighteen months, the breaks due to the Saturday and Sunday holidays, the summer and other vacations, reduce the actual academic work in the year from twelve months to less than eight. The summer vacation lasts from the 15th July to the 1st of September. There is a winter vacation of eight weeks and an Easter vacation of two weeks.

Compared with the Royal Military Academy, the Sandhurst vacations are considerably longer. The board of visitors of 1894 called attention to the fact that the vacations at Woolwich and Sandhurst are

of different lengths and at different periods of the year. They recommended that the vacations at the two institutions should be at the same periods, and that they should coincide, if possible, with those of other educational institutions.

The working of the classes at Sandhurst is seriously affected by having two kinds of cadets at the institution, i. e., the competitive cadets and the Queen's cadets. The Queen's cadets find themselves side by side with youths who are more advanced than themselves, so that there is a tendency to delay the instruction of the abler cadets, or to hurry over it with the privileged cadets. As might be expected, the proportion of the Queen's cadets who fail to pass their examinations is greater than that of the competitive cadets. The professor of fortification at Sandhurst reported on the 28th of November, 1893, "That out of the 12 cadets who failed to qualify at the first term examination for removal from the third division to the second division, 7 were Queen's or honorary Queen's cadets, i. e., 58 per cent. Yet the Queen's cadets only form about 15 per cent of the total strength of the division."

The director-general of military education in his report for 1893, gives the following figures:

From June, 1889, to December, 1891, the whole number of cadets who passed the final examinations was 1,012, of whom 891 entered by competitive examination and 121 by qualifying examination. The number who failed at the final examinations during the same period was 22, of whom 13 entered by competitive examination and 9 by qualifying examination.

GENERAL REMARKS ON THE TWO INSTITUTIONS.

13. The characteristic features of the Woolwich and Sandhurst schools are the brief period of instruction and the somewhat exacting competitive standards for admission; the two occupying to a considerable extent the relation of cause and effect, and some diversity of judgment is expressed as to their expediency. On the one hand it is asserted that too prolonged a course would tend to discourage young men of the class from which the supply of officers in England is naturally drawn from undertaking an arduous training following the years spent under tuition at the public schools, particularly in view of the fact that the army as a profession is not paid enough to be self-supporting, and not all who enter it can be sure even of continued employment on full pay. An alternative proposed is to raise the standard of admission and thereby take advantage of the competition, to counteract the brevity of instruction later, and at the same time to supply a means of pretty thoroughly sifting the material at the outset.

On the other hand, it is contended that mere academic proficiency is not by any means the surest test of those qualities which go to make a soldier, however desirable as an auxiliary, and that a period of training sufficiently long to develop and modify individual characteristics

and to saturate the pupil with the traditions and essential requirements of the military service is needed both to impart the requisite technical knowledge and military instinct, and in particular to inculcate habits of discipline that are essential and that can not be acquired if the period of tutelage is too short.

In the case of Sandhurst, the course of instruction has within the last few years been lengthened from one year to eighteen months, so that a demand for a still further lengthening of the course would probably meet strong opposition. With regard to Woolwich, it is very generally conceded that the course of instruction is too short, or, as the boards of visitors of 1893 and 1894 express it, "that no amount of instruction that can be given during the two years which cadets now pass at the academy can by any possibility be considered adequate for the completion of the instruction of officers of artillery any more than it can be for that of officers of engineers."

An additional argument for longer courses of instruction is found in the fact that, especially in the case of Woolwich, the army vacancies are fewer than the graduates, and thus the young men are kept waiting without occupation or pay for prolonged periods after completing the course. Of the graduates from Woolwich, for example, of March, 1894, the greater number were still unprovided for in March, 1895.

It is evident that such an intervening stage of idleness and freedom from restraint is highly disadvantageous to the individual at the age of graduation.

The matter has been brought before Parliament, and the secretary of state for war has agreed that provision should be made for continuing instruction and supervision until commissions are given and the young officers ordered to duty.

FRANCE.

The schools which correspond most nearly to the United States Military Academy are the *École Polytechnique* at Paris and the *École Spéciale Militaire* at St. Cyr, or St. Cyr, as it is popularly designated.

I.—L'ÉCOLE POLYTECHNIQUE, OR THE POLYTECHNIC SCHOOL.

This school is at Paris and was founded in 1794. It has been reorganized by various decrees, the latest of which was dated March 13, 1894.

The object of the school is to train students for the following branches of the public service, viz: The artillery of the army and the marine artillery; the engineer corps of the army (*Génie Militaire*); the engineer corps of the navy or naval constructors (*Génie maritime*); the corps of naval officers; the hydrographic corps; the marine commissariat corps; the corps of highways and bridges (*ponts et chaussées*); the manufac-

tories of the State; the engineers of the powder and saltpeter service; the mining engineers, and the telegraphic lines; also for such other public services as require a profound knowledge of the mathematical, physical, and chemical sciences.

Admittance to the school is exclusively by competitive examination. After a two years' course, the student may go to one of the special schools of application for any of the above-mentioned services, provided he can pass successfully the final examinations and be declared to be acceptable for this service by the decision of a committee which draws up the classification list for the public services.

Fulfillment of these conditions does not give an absolute right to enter any of the public services; admission to any service depends upon the number of vacancies existing at the time of leaving the school, upon the physical aptitude of the student, and his place on the order of merit.

The polytechnic school is subject to military discipline and is directly subject to the minister of war.

The number of students to be admitted is fixed every year by the minister of war. In 1894 the number was fixed at 210. The admission depends partly upon the capacity of the school buildings and partly upon the prospective number of vacancies, although the minister is authorized to admit one-tenth more than the number necessary to fill vacancies that will presumably occur.

The cost of board (pension) is 1,000 francs per year. The cost of the outfit is fixed every year by the minister. A deposit of 100 francs in addition is required on entering to constitute the student's individual fund (*masse*).

Full or half bursars are appointed from those whose family financial circumstances require such concessions. These are required to bind themselves to serve the State for ten years, unless they reimburse the treasury the cost of their respective bursarships. On graduating into the artillery or engineers each bursar cadet receives the cost of a first outfit.

The competition for admission to the Polytechnic is public, and takes place every year in Paris and in certain cities designated by the minister of war.

All candidates must be French born or naturalized, must have been vaccinated or have had the smallpox, and must be between the limits of 17 and 21 years of age on the 1st of January of the year of the competition. Temporarily, soldiers who have served six months with the colors are eligible up to the age of 25.

Candidates must enter their names, by the 1st of April, at the latest, either at the prefecture of the department where they are studying, if they are civilians, or, if they are soldiers, at the prefecture of the department where they are garrisoned. Only the students of the *Prytanée Militaire* are exempt from the requirement of entering their names.

Before they are allowed to enter their names candidates must produce the following papers:

(1) The legally attested birth certificates of the candidate and his father.

(2) Proof that the candidate possesses one of the following diplomas: *Bachelier ès sciences*, or *bachelier de l'enseignement secondaire spécial ou moderne*. Certificates that the candidate has passed the first examination for the *baccalaureate* are also admitted in lieu of the diplomas above mentioned.

(3) A certificate of physical aptitude.

(4) A declaration of the place where he wishes to be examined.

(5) A declaration from the father of the candidate with regard to the payment of the board (pension) for his son, or an application for a *bursarship* or *demibursarship*.

Every candidate who succeeds in obtaining an appointment to the school, and who does not report to the commandant of the school within the time fixed by the letter of appointment, will be considered as having resigned.

On arriving at the school, every appointee will be subjected to a medical examination, and all those who are found fit for military service are required to sign an engagement to serve three years from October 1 in the army. The two years' service at the school is credited to the scholar, but in case a scholar fails in his studies or is dismissed for misconduct, he is required to serve out his full term of three years as a soldier in some line regiment.

For certain reasons, such as failure in health or on account of injury, scholars may be turned back for one year, but not more than once, and this year does not count as a credit against the three years' engagement.

By article 15 of the new decree, a certain number of foreigners may be permitted by the minister of war to follow the course as externals, provided their aptitude has been established by means of a special examination, but no such foreigner may be admitted as a resident scholar.

The scholars live in barracks and are divided into four companies for purposes of discipline and military instruction; for academic purposes they are classed into two divisions, corresponding to the years of the course. Twice a year the standing of each scholar is published by bulletin. At the end of the school year an examination fixes the relative order of merit in each division, and the average of the results of the final examinations of both years fixes the order of merit of the graduating class. The scholars of the graduating class select the public service which they wish to enter before they go up for the final examination, and they also declare their secondary selections. If they decide not to enter any of the public services, they so declare, and are then sent, equally with those who have selected a civil position in the public service, to serve one year in the reserve of the army as second

lieutenants. They must all fulfill the three years of service for which they contracted on entering the school.

If, for any reason, any scholar should not accept the place in the public service assigned to him, or if his graduating standing should not have obtained for him a vacancy in some of the services supplied by the polytechnic school, he may be appointed a second lieutenant in some part of the army or navy not specified in the list of services supplied by the school, or may be sent to the school of forestry, or to one of the schools of application for the civil service.

Those who graduate in the artillery and engineers of the army and the marine artillery are sent, as *élèves sous lieutenants* (student second lieutenants), to take a post-graduate course at the school of application for the artillery and engineers at Fontainebleau (formerly Metz).

Of the graduates of 1894, who went into the army or marine, 76 entered the artillery of the army, 24 the marine artillery, 10 the marine engineers (naval constructors), 1 became a hydrographer of the navy, and 21 went into the engineer corps of the army.

The polytechnic school, though under the minister of war, is much more of a scientific school than a military one. A diploma from this school is considered invaluable for any scientific career.

ENTRANCE EXAMINATIONS.

The competition is divided into three successive examinations: First, the “compositions” or written papers; second, the preliminary examinations or examinations of the first degree (oral), and, third, the examinations of the second degree (oral).

Papers (“compositions”).—These include a paper on the course of special mathematics, a problem in descriptive geometry, a paper on the French language, a paper on physics and chemistry, a trigonometrical problem, a pen-and-ink (or india-ink) drawing, and a drawing of a bust from a plaster cast.

All the papers are corrected and marked. When the marks allotted to any paper, multiplied by the proper coefficient, amount to less than the sum fixed by the examining board, the candidate is not allowed to enter the examinations of the first degree.

EXAMINATION OF THE FIRST DEGREE.

The oral examinations of the first degree are held on the subjects specified in the programme of admission, and serve, in connection with the mathematical papers and the papers in chemistry and physics, to exclude from the oral examinations of the second degree such candidates as are insufficiently prepared.

To accomplish this result, the mean of the marks of the two examinations will be multiplied by 10; to this will be added the mark of the physical and chemical paper multiplied by 2, and the mark on the mathematical paper. When the sum of the points thus obtained is less than the minimum fixed by the examining board, the candidate will be eliminated.

EXAMINATION OF THE SECOND DEGREE.

The oral examinations of the first degree serve, in connection with the papers and the oral examinations of the second degree, to determine the classification in order of merit.

Coefficients.

Oral examinations of the first degree.....	10
Mathematical paper.....	1
Physical and chemical paper.....	2
For final admission:	
Mean of the two oral examinations of first degree.....	18
Examinations of the second degree:	
Mathematics—	
First examiner.....	20
Second examiner.....	20
Physics.....	10
Chemistry.....	5
German.....	5
Papers:	
Mathematics.....	4
Descriptive geometry.....	3
Trigonometrical problem.....	1
Drawing.....	4
Pen-and-ink sketching.....	1
French.....	6

The marks on the different papers and examinations range from 0 to 20.

Any candidate who obtains in any subject a mark less than 5 shall be reported to the board and may be excluded for insufficient preparation, and any candidate who turns in, in any subject, a blank sheet will not be allowed to enter the oral examinations.

PROGRAMME OF SUBJECTS OF EXAMINATIONS (1895).

The examiners are always allowed to satisfy themselves that the candidates are properly grounded in the elementary mathematics (arithmetic, geometry, and algebra).

- (1) Algebra: Through the higher algebra.
- (2) Trigonometry: Through plane and spherical trigonometry.
- (3) Analytical geometry: Analytical geometry of two and three dimensions.
- (4) Mechanics: Cinematics, dynamics, and statics.
- (5) Descriptive geometry: As far as the intersection of conical or cylindrical surfaces or the intersections of surfaces of revolution whose axes intersect.
- (6) Physics: Optics, measuring instruments, such as verniers, micrometers, and spherometers; weight, laws of falling bodies, etc.; hydrostatics, statics of gases; heat, calorimetry; changes of state, such as fusion, solidification, and suffusion; hygrometry.
- (7) Chemistry: Organic and inorganic.

(8) French language: A composition of the same style as those prescribed by the programmes of the class of philosophy.

(9) German language: The principal rules of grammar; translating at sight; answering in German questions addressed to them in that language, etc.

(10) Geometrical drawing, drawings in india ink, and copies: Candidates must execute a problem in descriptive geometry, an india-ink drawing, and a copy from a plaster cast, in pencil.

(11) Problems and drawings to be handed to the examiners: Candidates must turn in to the examiners a number of descriptive geometry problems, and drawings in pencil and india ink, executed by themselves during the current scholastic year. This work must be properly attested, so as to make sure that the drawings presented are really the work of the candidates in question. Attempts at deception with regard to these matters will rule out a candidate from further competition.

FURTHER REGULATIONS.

An advantage of 15 points will be granted to those candidates who produce the diploma of *bachelier ès lettres*, or a certificate that the candidate has passed the first examinations for this *baccalaureate* degree.

An advantage of from 1 to 5 points is granted to those candidates who show themselves proficient in some living language other than German.

A number of points, varying from 1 to 15, will be allowed the candidates for their aptitude in physical exercises (fencing, gymnastics, and riding). Candidates are not admitted to the examination of the second degree unless they can present a certificate from the physical examining board to the effect that they have passed the tests required by this board.

All the subjects included in the programme are equally obligatory. Candidates whose information on any of the subjects of examination is deemed to be insufficient are to be struck from the list, whatever may be the rank they occupy in the order of merit.

COURSE OF INSTRUCTION.

The course comprises the following branches, Analysis (the higher branches of analysis), mechanics and machines, descriptive geometry and stereotomy, physics, chemistry, astronomy, architecture, history and literature, drawing, including drawing of machinery, and German.

There is also a department of military instruction, presided over by a *chef d'escadron* of artillery.

No list of text-books is available at present.

II.—L'ÉCOLE SPÉCIALE MILITAIRE A ST. CYR.

The special military school of St. Cyr, or St. Cyr as it is popularly designated, dates from the time of Louis XIV. It was last reorganized

in 1882. It is intended to supply officers for the infantry, the cavalry, and the marine infantry.

The course of instruction lasts two years, and no scholar is allowed to remain more than three years at the school. The privilege of taking a third year to complete the course is only allowed where circumstances of exceptional gravity have compelled a student to suspend work at the school.

The school is subject to military discipline.

The cost of board (pension) is 1,000 francs and that of the outfit from 600 to 700 francs.

Busarships or half busarships may be granted to young men whose parents are unable to support them at the school. Outfits or partial outfits may also be allowed in such cases.

Admittance to the school is exclusively by competitive examination. The competition is divided into three parts:

- (1) The papers ("compositions").
- (2) The examination of the first degree (oral).
- (3) The examination of the second degree (oral).

Competitors are limited to those who have obtained degrees as *bachelier ès lettres*, *bachelier ès sciences*, *bachelier de l'enseignement spécial*, or a certificate of qualification for the baccalaureate degree in secondary or classical modern schools.

Possession of one or more of these degrees or certificates gives a right to a number of points, varying from 40 to 15, according to the number and kinds of degrees possessed by the competitor. These count for admission only.

The programmes and dates of the entering examinations or competitions are published every year sufficiently long in advance to give candidates from the remotest parts of France plenty of time to compete. Candidates must be French born or naturalized, robust and well-formed, free from any ailment that would unfit them for the military service, and not less than 17 or more than 21 years of age on the 1st of January of the year of the competition. They must be registered as candidates before the night of the 15th of April, those not belonging to the army at the prefecture of the region where they are completing their studies, those already soldiers at the prefecture of the region where they are garrisoned. Scholars of the *Prytanée Militaire* need not register. The competitions for admission are held during the months of June and July at all the principal centers of any army corps region.

Accompanying his application to register, the candidate must furnish the proper birth certificates, a surgeon's certificate of vaccination, and a certificate from the local recruiting officer that he has military aptitude; also a statement of the place where he desires to be examined, and a statement from his parents or guardians that they are able to pay the expenses of board, etc., or if not so able, a request for a full or half bursarship.

COMPETITIONS.

Papers ("compositions").—(a) A paper on the French language of the grade of the class of elementary mathematics; (b) an exercise in German, German script to be employed; also a translation from the German; both exercise and translation to be made without the help of a dictionary; (c) a mathematical paper; (d) a logarithmic calculation, solution of a triangle; no tables allowed, except a five-place table of logarithms; (e) a simple problem in descriptive geometry, or in one-plane descriptive geometry; (f) a drawing in pencil, from a plaster cast; (g) a shaded copy of a landscape; (h) a topographical drawing, copy of a map on a scale of 1–20000.

A failure to turn in any one of these papers will exclude the candidate from the rest of the competition. However, an unfinished paper will not necessarily be a ground for exclusion.

In all the papers stress will be laid upon legible writing and correct spelling. Failure on these points will exclude a candidate from further competition.

The papers are judged by examiners and "correctors" appointed by the minister of war.

The marks given by the "correctors" range from 0 to 20.

The mark given to a paper is multiplied by the corresponding coefficient, and the result is the number of points gained by the candidate on such paper.

The mean of the marks on the pencil drawing and the landscape drawing gives the number of points allowed for drawing.

In any case where the sum of the products formed by multiplying the marks on the different papers by the corresponding coefficients is less than a certain limit the candidate is excluded.

This limit is fixed every year by the minister on the recommendation of the examining committee under the presidency of the director-general of infantry.

EXAMINATIONS OF THE FIRST DEGREE.

Taken in connection with the papers the examination of the first degree decides the question of "admissibility" in the case of any candidate. The subjects of this examination include all those mentioned in the programme, with the exception of the German language.

The board is composed of three examiners, one for the literary part and two for the scientific part.

The questions put to any candidate are drawn by lot from a number prepared by the examiners. Each examiner marks the candidate on the answers to the questions he has put to him, on a scale ranging from 0 to 20; he multiplies this number by the corresponding coefficient and puts down the partial products on a sheet bearing the name of the candidate.

To obtain the total number of points to which a candidate is entitled on this oral examination, the examiners add together all these partial products.

To determine the total number of the points which will fix the position of the candidate in the order of merit, add together the total number of points obtained as just mentioned, the total number obtained on papers, those allowed for physical aptitude, and the credit or "majoration," if any, allowed for the literary diplomas or certificates.

Each examiner devotes, in general, twenty-five minutes to the examination of a candidate. All the answers of the candidate are considered in giving him his mark, which ranges between 0 and 20.

The examiners of the first degree put down, on a sheet bearing the name of the candidate, the three marks obtained, multiply each by the corresponding coefficient, and take the sum of the products. This result is added to the total number of points obtained on the papers.

In any case where the sum of all the points thus obtained is less than a certain limit, the candidate is excluded from the examinations of the second degree.

The candidates who satisfy all the above conditions receive a certificate of "admissibility," on the presentation of which they are admitted to the examinations of the second degree.

EXAMINATIONS OF THE SECOND DEGREE.

For the examinations of the second degree the board is composed of five examiners—three for the scientific part, one for history and geography, and one for German and English.

PHYSICAL APTITUDE.

Independently of the written or oral examinations, the candidates undergo another to determine their physical aptitude, their skill in riding, fencing, and gymnastics. The last three are obligatory.

A mark, ranging from 0 to 20, is given each candidate for each of the three separate examinations in riding, fencing, and gymnastics.

The effectives of the school are fixed every year by the minister of war, upon which depends the number of vacancies to be competed for. Heretofore the effectives were usually fixed at 900, which would give a yearly number of 450 admissions, or rather more. In 1894 the number of places to be competed for was 475, for which there were about 2,200 entries. For 1895 the number of admissions has been raised to 600, and the 150 additional may be taken from those at the top of the list of successful candidates for entrance to the naval school.

Every candidate who receives an appointment, and who does not report to the commandant of the school within the time fixed by his letter of appointment, is considered as having resigned.

No one can be admitted to St. Cyr who is under the height of 1 meter 540 millimeters (about 61 inches), or who is laboring under any of the

disabilities that would involve discharge from the army. Consequently the appointees on their arrival at the school are subjected to a medical examination. If they pass this examination they are required to sign an engagement to serve for three years.

Bursar cadets are required to serve for ten years, unless they make good the sums that have been advanced by the state for their board, etc

PROGRAMME OF THE SUBJECTS OF EXAMINATION.

(1) History: The history of France and of Europe from the reign of Louis XIII to the present time. (Coincides as far as possible with the course of history taught at the "lycées," which correspond to our high schools.)

(2) Geography: (a) Europe: Physical geography; orography; hydrography; political geography; railways. (b) France: Physical geography; orography; hydrography; political geography; railways; internal navigation; colonies, particularly Algeria and Tunis. (c) Asia: Seas, coasts, islands, capes, etc.; orography; hydrography; foreign colonies; China and Japan. (d) Africa: Seas, coasts, islands, capes, etc.; rivers and lakes; European colonies; Egypt. (e) America: Seas, coasts, islands, capes, etc.; mountains and rivers; European colonies; United States; summary information on the other American States. (f) Oceania: Archipelagoes and islands; European colonies.

(3) German language: A theme on the blackboard; reading German script; translating at sight; conversing in German.

(4) English language: Optional. Questions only.

(5) Algebra: Through the solution of equations of the first degree and equations of the second degree with one unknown quantity; also through arithmetical and geometrical progressions, including logarithms.

(6) Geometry: Through spherical geometry.

(7) Descriptive geometry and one-plane descriptive geometry; as far as the projection of the plane sections of spheres, cones, and cylinders of the second order.

(8) Plane trigonometry: Through the solution of triangles.

(9) Analytical geometry: Rectilinear coordinates only.

(10) Mechanics: Statics, cinematics, dynamics.

(11) Physics: Hydrostatics, heat, electricity, optics.

(12) Cosmography: Constellations and principal stars, celestial sphere, the earth, construction of maps.

(13) Topography: Planimetry, representation of the ground, accidents of ground, measure of distances on the ground, measure of angles, theory of the execution of a regular survey, estimation of the difference of level of two points.

Table of coefficients.

(1) Papers:		
French paper	14	
Mathematical paper.....	14	
Logarithmic calculation	2	
Problem in descriptive geometry	6	
Drawing from model.....	3	
Topographical drawing	2	
German theme	8	
German translation	4	
Total	53	53
(2) Examinations of the first degree:		
Physics, mechanics, cosmography, topography.....	10	
Algebra, geometry, descriptive geometry, trigonometry, analytical geometry	10	
History and geography	10	
Total.....	30	
Sum of the coefficients for "admissibility"	83	
(3) Examinations of the second degree:		
Literary subjects—		
French paper (supplementary coefficient).....	2	
History.....	14	
Geography.....	14	
German.....	10	
English (optional)	2	
Scientific subjects—		
Algebra and plane trigonometry.....	16	
Geometry	12	
Descriptive geometry	10	
Analytical geometry.....	10	
Cosmography and topography.....	6	
Physics and mechanics.....	18	
Total	114	
(4) Physical aptitude:		
Riding.....	2	
Fencing	3	
Gymnastics	3	
Total	8	
Sum of the coefficients for admission	205	

COURSE OF INSTRUCTION, ETC.

The course of instruction includes the following branches: Artillery, topography, military art and history, military legislation and administration, fortification, musketry, geography and statistics, military literature, German, and drawing.

The cadets also receive instruction, practical and theoretical, in infantry and cavalry, and in gymnastics and fencing.

The purpose of the instruction given to the cadets is purely military.

During their stay at the school all the cadets receive instruction in riding.

The cadets are divided into two divisions or classes, corresponding to their respective years of instruction at the school. They are promoted from the second to the first division after passing the prescribed examination.

The cadets of the first division undergo a final or graduating examination.

A cadet who is dismissed for misconduct is sent to do duty in some regiment, as a noncommissioned officer or private, according to the circumstances.

Those who fail at the final examinations, and who are not turned back at the school, are sent to regiments as noncommissioned officers to complete their three years' service. The successful graduates go to the infantry or cavalry or the marine infantry as second lieutenants. They rank in the army according to their graduating standing.

The school is organized on a military basis. The scholars live in the barracks and are formed into a battalion of eight companies, constituting one infantry battalion. This battalion ranks as the first of the army of France. The officers of the battalion are detailed from the army. The sergeant major, quartermaster sergeant, sergeants, and corporals are detailed from the scholars of the senior class or division.

Those scholars who, at the Easter examination of their first year, have, at their own request, and after an examination by a board of cavalry officers, been designated for the cavalry, form a special section for cavalry instruction, inspections, and discipline. Once classed in the cavalry section a cadet can not be taken out of it, except for some infirmity which would unfit him for mounted service.

The cavalry section has an organization corresponding very nearly to that of a squadron. Its officers and acting noncommissioned officers are appointed in a manner similar to that prescribed for the school infantry battalion.

Cadets receive pay at the rate of 28 centimes (3½ cents) per day.

The number of graduates from St. Cyr in 1894 was 417, of whom 75 went into the cavalry and the remainder to the infantry.

No list of text-books used at St. Cyr is available at present.

GERMANY (PRUSSIA).

The school which corresponds most nearly to the United States Military Academy is the "Haupt-Kadetten-Anstalt" or Upper Cadet School at Gross-Lichterfelde.

This school is fed or supplied by the "Kadettenhausen" or preparatory cadet schools, of which there are now seven, viz, Goslin (formerly at Culmer), Potsdam, Wahlstadt, Bensberg, Plon, Cranienstein, and Karlsruhe. An eighth school is now building at Naumburg.

Beginning with the lowest class of the preparatory schools, the classes are designated as Sexta or VI, Quinta or V, Quarta or IV, Unter-tertia or U. III, Ober-tertia or O. III, Unter-secunda or U. II, Ober-secunda or O. II, Unter-prima or U. I, Ober-prima or O. I. In addition there is an extra class called "Selecta."

There are thus nine classes, counting from VI up to and including upper prima. The course of each of these classes lasts one year. The lower or preparatory schools contain the classes from VI up to and including upper tertia; the other classes belong to the upper cadet school. Occasionally also, depending on the space available and the necessities of the case, some of the upper-tertia class are admitted to the upper cadet school. In the upper cadet school begins the immediate preparation for service. The classes from sexta up to and including upper prima are assimilated in the matter of instruction to the corresponding classes of the "Real Schulen" of the first degree.

CONDITIONS OF ADMISSION.

The places at the cadet schools are divided into several different categories.

1. Royal or "budgetary" places, to which pupils are admitted either gratuitously or on payment of a yearly contribution of 90, 180, 300 or 450 marks.

2. "Pensionäre," those who pay for their "pension" or board, whose yearly contribution is fixed at 800 marks.

3. "Hospitanten" or externals, who pay a contribution of 60 marks.

4. Foreigners. Such foreigners as may be admitted form a special class of "pensionäre." Their yearly contribution is fixed at 1,500 marks.

1. *Royal cadets.*—These places are granted: (*a*) to the sons of officers, preference being given to the sons of officers who have been killed in battle or who have died in consequence of wounds or disease contracted in the field; (*b*) to the sons of noncommissioned officers; (*c*) to the sons of persons in the civil service who have greatly distinguished themselves.

Applications for these places are made when the boys are 8 or 9 years old, and are addressed to the officer who is at the head of the staff (command) of the "kadettenkorps." The staff is stationed in Berlin. A committee is appointed to decide on these applications. It consists of: (*a*) the inspector-general of military educational establishment, chairman; (*b*) a delegate appointed by the war minister; (*c*) a delegate appointed by the minister of public worship; (*d*) the officer commanding the several corps of cadets; (*e*) the officer commanding the upper cadet school at Lichterfelde.

The committee throws out the applications which show no ground for admission, classes the candidates according to the sums which they will have to pay, taking into account the financial position of the parents

and of the boys themselves. The Emperor makes the final decisions after the recommendations of the committee have been submitted to him.

2. *Pensionäre*.—Applications for pay places may be made in behalf of the sons of natives of any of the German States. Foreigners may also apply for these places, but they are only admitted when the rights of natives are not prejudiced thereby.

The number of pay places each year is dependent upon the number of royal cadets admitted.

Applications for pay places are addressed to the officer commanding the several corps of cadets, at his headquarters in Berlin. This officer decided upon these applications.

The youths who are successful in obtaining these “pensionäre” appointments are distributed to the different establishments, regard being paid to the residence of the parents and to the vacancies existing in the various schools.

For admission to any class, either as a royal cadet or as a pensioner, a boy must be between the ages of 10 and 15 years.

3. “*Hospitanten*” or *externals*.—These may be admitted to the preparatory cadet schools on the authority of the officer commanding the several corps of cadets, and in such numbers as the accommodations of the different schools will admit. They must be between the ages of 10 and 14 years, and must pay an annual contribution of 60 marks.

Sons of officers, instructors, professors, and officials of the cadet schools, when admitted as “hospitanten,” are exempt from the payment of this contribution.

Sons of officers, instructors, etc., of the upper cadet school, may also be admitted to this establishment as “hospitanten,” provided they have not passed the age of 16 years.

EXAMINATIONS.

Boys who receive provisional appointments to any of the cadet schools must report for physical and mental examination at the institution to which they are appointed, as a rule at the beginning of April. If the surgical examinations show deficient physical development, or any defects that would exclude a person from entering the army, the boys are sent back to their parents and not allowed to take the mental examination.

The mental examinations are both oral and written. In the mental examination less stress is laid upon the scope of the candidate's information than upon its thoroughness. To enter the lowest class of a preparatory cadet school the candidate is examined in arithmetic and the German language only. More details of this examination will be given later. To enter a higher class than the sexta the candidate must pass an examination upon the course of a year preceding the class which they wish to enter.

In case a boy passes successfully both physical and mental examinations, he is admitted to the institution and uniformed.

ENTRANCE EXAMINATION FOR THE SEXTA.

German language.—Readiness in reading and writing, using both German and Latin characters. Ability to take down from dictation, without grave faults, an easy German theme.

Arithmetic.—Operations under the four fundamental rules of arithmetic. Writing and reading figures up the number of seven places. Knowledge of the principal coins, measures, and weights.

No preparation in Latin or French is required.

The following table shows the subjects of instruction at the different cadet schools and the number of hours of instruction per week in each class and subject:

Subject.	Classes.								
	VI.	V.	IV.	U. III.	O. III.	U. II.	O. II.	U. I.	O. I.
Religion.....	2	2	2	2	2	2	1	2	2
German	4	3	3	3	3	3	3	3	3
Latin	7	7	6	4	4	3	3	3	3
French.....			6	8	4	4	3	5	4
English.....					4	4	4	4	4
Arithmetic and mathematics.....	4	5	4	5	5	5	5	4	5
History	1	1	2	2	2	2	4	3	3
Geography.....	2	2	2	2	2	2	3		
Natural history	2	2	2	2					
Physics.....					2	3	2	3	3
Chemistry								3	3
Topographical drawing				2	2	2	2		
Free hand drawing.....	2	2	1	2	(*)	(*)	(*)	(*)	(*)
Writing	2	2							
Total.....	26	26	28	30	30	30	30	30	30

* Optional.

The higher mathematical course embraces algebra, geometry, trigonometry, the elements of descriptive geometry, and analytical geometry (conic sections).

The course of the Upper-Tertia class, in which an examination must be passed to enter the Upper Cadet School, comprises religion; German—prose and poetry, versification, arrangement of sentences; Latin—through books I and V of De Bello Gallico; French—grammar, reading, and conversation; English—grammar, reading, and conversation; mathematics—geometry, higher arithmetic, and algebra through solution of equations of the first degree; history—history of middle ages up to 1648; geography—geography of Europe, especially of central Europe, the atmosphere, land, seas, inland waters; physics—general properties of bodies, solid, liquid, and gaseous, elements of heat and chemistry, chemical union and combustion; topographical and mathematical drawing—elements of projections and perspective, scales and conventional signs, etc., with an optional course in free-hand drawing and writing.

In all the schools the instruction begins on the 1st of April, at which date cadets who have successfully passed the examinations of their respective classes are promoted a class. For the last five years the

number of promotions in each class has averaged 90 per cent of the number examined. As shown by the preceding table, the number of hours spent in the class room each week is about 30. The morning hours, from 7 to 12, or in the winter from 8 to 1, are employed in this manner, though the time-table is not exactly the same in all the schools. After the morning school hours there is a roll call, at which the orders for the day are read, letters distributed, punishments announced, etc. A drill of half an hour comes next.

Then after dinner comes an hour's recreation, which should be taken, as far as possible, in the open air. Then two hours are devoted to police duty and work around the quarters under the supervision of the instructors. The two hours following are devoted to gymnastics and singing, bathing and swimming, fencing and target practice.

Sundays and holidays the cadets receive a greater amount of liberty than on ordinary days. There are vacations of fourteen days at Eastertide and Christmastide, and of five days at Whitsuntide. In summer there is a vacation of five weeks. About the 1st of October instruction is suspended for a few days, during which time cadets take part in military excursions, which in the upper cadet school have the character of field-service exercises.

Cadets are divided according to their conduct into what are called "Censur-Klassen" or conduct classes. All cadets who have just entered are assigned to the third of these classes. They are promoted to the second class for good conduct and to the first class for exceptionally good conduct. The higher conduct classes enjoy special privileges and favors in the matter of liberty especially. The fourth or lowest conduct class is a disciplinary section. Cadets who pass into this section are under close supervision and enjoy no privileges or liberty.

MILITARY ORGANIZATION.

The preparatory cadet schools, with one exception, are intended to accommodate 220 cadets each. The school of Plon has only room for 150. In each of these schools the boys are organized into two companies, the officers of which are detailed from the army. Corporals and sergeants are detailed from the cadets.

The theoretical course in the lower cadet schools is, as has been noticed before, the same or nearly the same as that of the Real-Schulen of the first degree, and military subjects are not embraced in the curriculum at all. The cadets, of course, are under military discipline, and the amount of drill and other exercises in which they have to take part has already been indicated. A constant effort is made by the military instructors to train the characters as well as the minds of the boys, and to cultivate correct deportment and manners and a high sense of honor.

THE UPPER CADET SCHOOL.

The entrance examination for this school and the studies pursued have already been outlined. Besides the branches already mentioned, the cadets receive instruction in the regulations of the service, so that they may be well grounded in these matters on entering the army. The upper-class cadets also receive instruction in riding. Guard mounting and guard duty are practiced twice a week.

The complement of the school is 1,000 cadets, organized into two battalions of five companies each. The officers of the companies and battalions are detailed from the army; the noncommissioned officers and even sword-knot ensigns are appointed from the cadets.

After passing successfully through two years of the course (the classes of the lower and upper secunda) a cadet is admitted to the Port-épée-Fahurich's examination (sword-knot ensign's examination). This is held every year, in the spring, before the superior military examination committee of Berlin.

1. Those cadets who will attain their seventeenth year on the 1st of April and who have the requisite physical development are, if they pass this examination successfully, (a) either recommended for appointment in the army as brevet sword-knot ensigns (charakterisirte Port-épée-Fahnriche), or (b) are transferred to the "selecta" class in order to prepare directly for the officer's examination, or (c) transferred to the under prima.

Those cadets who, having passed through the upper secunda, fail at the ensign examination, or who, on account of unsatisfactory standing, are not admitted to it, are as a rule, either returned to their parents or else entered in the army as privates, exceptionally as noncommissioned officers, for the discharge of their liability to military service.

(b) *Selecta*.—The course of the "Selecta" class corresponds closely to that taken in the so-called "war schools," and consists entirely of military studies and the French and Russian languages. Selecta cadets are the only persons who receive, directly, officers' commissions. All other aspirants for commissions, whether cadets or "avantageurs," must first pass through the grade of sword-knot ensign.

The members of the selecta are at the close of their course, if deemed proficient, admitted to the officers' examination. Those who pass, and who seem qualified by reason of their conduct and bearing on and off duty, receive their appointments as second lieutenants at once. Such cadets as pass, but are not perfectly satisfactory, enter the army as ensigns, and may gain their commissions in from two to six months. Those who fail are also appointed ensigns and sent to regiments, to be reexamined at the end of three months.

Those cadets of the upper secunda who are admitted to the selecta and gain high rank in this class have a considerable advantage over those of the same class who enter the army as brevet sword knot ensigns.

The first-named get their second lieutenancies about one year after the expiration of the upper-secunda course, while the greater number who are transferred to the army as brevet sword-knot ensigns, only gain their commissions in about one year and seven months.

This time is made up about as follows:

First, the cadets appointed sword-knot ensigns are sent to regiments to serve for five months from about the 1st of May, and at the end of that time they ought to have won the "dienstzeugniss," or military qualification certificate, from their respective squadron, battery, or company commanders. This entitles them to the grade of actual or effective sword-knot ensign and to admission to the October course of a "war school." If the conduct and application to duty of a brevet sword-knot ensign are satisfactory he is ordered to attend a war school even if he has not on the 1st of October quite completed full five months' service with troops. The war-school course lasts nine or ten months, at the end of which time, if the pupil's marks are satisfactory, he is admitted to the officers' examination, after passing which the aspirant is nominated to the Emperor for a commission as second lieutenant, provided he is acceptable to the majority of the officers of the regiment to which he has been assigned.

(c) *The under-prima.*—To this class of the upper cadet school are transferred those cadets who pass the "Port-épée-Fabrich's" examination, but who have not yet attained to the prescribed age or the requisite physical development.

To the under-prima class are also transferred those upper-secunda cadets who pass the examination with credit and who have attained the prescribed age and the requisite development, provided the parents of the cadets request this transfer.

Those cadets who pass through the under-prima successfully, and who have attained the prescribed age and physical development, are disposed of as follows, according to the desire of their parents:

They are recommended for appointment in the army, according to their standing, as actual or brevet sword-knot ensigns; or they may be transferred to the upper-prima in order to prepare for the *Arbiturienten* or *Maturitäts* examination (the diploma granted to a person who has passed this examination is a qualification for admission to a university course); or they may be, in special exceptional cases, transferred to the *selecta*.

2. *The upper prima.*—Cadets who have gone through the upper-prima course come up for their *arbiturienten* examination before the examining committee of the cadet corps, and those who pass this examination are appointed actual sword knot ensigns, and at the same time sent to take the course at a war school. At the completion of the war-school course, those who have passed with the rating of at least "good" receive with their promotion to the grade of second lieutenant a commission bearing the date of their entrance into the army.

Upper-prima cadets are also appointed to be sword-knot noncommissioned officers if warranted by their general standing and conduct. Upper-prima cadets are to receive, also, as far as possible, instruction in military branches along with their regular theoretical instruction.

The final examination for the upper-prima cadets, or the *Arbiturienten* examination, is to be so arranged that it will be over by the 1st of February.

The war school course for the successful upper-prima cadets begins on the 1st of March, but before joining the war school they are to report to the respective squadrons, batteries, or companies to which they are assigned, not later than the 25th of February, for the purpose of taking the oath and receiving their uniforms.

As has been shown, the higher selecta cadets have the advantage in the race for the officer's commission, since it takes them only about three years from the date of entering the upper cadet school to attain this grade (two years in the under and upper secunda and one year in the selecta). Those who go through both under and upper prima are the last to get commissions, since in the most favorable cases they get rank as second lieutenants only from the date of their entrance into the army, or about four years from the time of their entrance into the upper-cadet school. On the other hand, if a youth is forced to give up the military career for any cause, the one who has passed his *arbiturienten* examination has the best chance in civil life, since the same careers are open to him that are open to the "*arbiturienten*" of the "*Real gymnasia*."

The following table shows for three years the number of cadets graduating into the army from the cadet corps, and the different classes into which they were divided:

	Second lieutenants.	Actual sword knot.	Brevet ensigns.
1891-92	90	36	153
1892-93	90	21	162
1893-94	87	27	199

War schools.—The programme of these schools, which is essentially the same as that of the selecta class at the upper cadet school, and upon which the officers' examination is based, comprises the following subjects:

1. *Tactics.*—Theoretical instruction, and also practical exercises, as follows: (a) Formal tactics, taught by drills of the pupils in the company, battalion (skeleton), squadron (with horses), and the battery (harnessed), attendance at the exercises of troops on the drill ground; (b) applied tactics, taught by solution of problems on the map, solution of problems on the terrain, to which about two weeks of the practical course are devoted; attendance at suitable maneuvers of troops on the terrain, exercises in *kriegsspiel*.

2. *Science of arms.*—This is to teach the construction of the guns and arms used in the German army, practical ballistics, and the effect of

the projectiles of both artillery and infantry; and also with regard to the effect of projectiles, the employment in action of the two arms just mentioned. This instruction is furthered in various ways: (a) By the diligent use of the various aids provided for object instruction. (b) By visits of inspection to various technical establishments and depots. (c) By drills at the guns. (d) By the execution of the minor firing exercises for instruction, according to the infantry firing regulations, by the best shots among the pupils. (e) By attendance at the target ranges of infantry and artillery.

3. *Science of fortification*.—The course comprises field fortification, permanent fortification, and the attack and defense of fortifications. The instruction in this course is furthered by the following exercises: (a) By visits of inspection to various permanent works. (b) By attendance at the various pioneer exercises. (c) By the execution by the pupils themselves of shelter trenches of various profiles. (d) Examples on the map, relating to the fortification of a position of small extent on the basis of a certain tactical disposition. (e) The same kind of exercises on the terrain. The lines of projected works are simply to be outlined with flags or stakes.

In these last exercises several days of the practical course are to be employed.

3. *Study of ground*.—The study of this branch deals with the knowledge and description of the surface of the earth, with reference only to the military significance of the terrain and its influence upon the employment of troops; all deviations into the province of geodesy or of military and physical geography are to be avoided. The study of ground forms not only the basis for topographical drawing and surveying, but also the basis for applied tactics.

4. *Topographical drawing*.—The instruction in this branch comprises a primary triangulation of a tract, topographical land surveying, and hasty surveying for special purposes. Use of surveying instruments is also taught.

5. *Army organization*.—This instruction comprises a detailed study of the peace organization of the German army and its historical development, and also of its recruitment, mobilization for war, and the different war formations. It includes also a course in military justice, etc. A short course is also given on the organization of the German navy.

6. *Instruction in foreign languages*.—(a) French: This is intended to perfect the pupil in the language of conversation, both oral and written. (b) Russian: The instruction in this language is only elementary, the idea being to lay the foundation, which the pupil can improve upon later; it will therefore be limited to reading, writing, as well as translating simple sentences.

7. *Military correspondence, etc.*—This includes practice in the making out of such dispatches, letters, reports, records, rolls, and accounts as are used in the interior service of a company, squadron, etc., and such as are required from an officer exercising an independent command.

8. *Regulations and duties, etc.*—The instruction in this branch embraces the service of subaltern officers, including the instruction to be imparted by them to the men. For mounted officers this includes the contents of the riding instruction and stable service; also a short course in veterinary surgery and farriery. Pupils who belong to the dismounted arms receive instruction in saddling, bridling, care of horses, and the diseases of horses; also in shoeing, as far as such information is necessary for mounted officers of infantry. The subjects mentioned under this head (8) form no part of the officer's examination, however.

8. *Special instruction.*—Special instruction, aside from that mentioned under the head of (8), is given only to: (a) Pupils who are aspirants for commissions in the field or foot artillery, who, separate from each other, are trained in the first term or quarter of the course in the duties of gunners in their respective arms, so that they may be employed in this capacity in the gun drills of the other pupils; (b) pupils who are aspirants for commissions in the pioneers, who are exercised in simple branches of field-pioneer work.

9. *Drills and exercises.*—The purpose of the practical exercises is as follows: (a) The improvement of the bearing and discipline, completion and strengthening of the instruction begun for this purpose in the companies, etc. (b) Exercises in commanding, instructing, and correcting. (d) Completion of the instruction in elementary tactics, in which the pupils must be trained for the duties of section or platoon commanders.

10. *Firing instruction.*—The preliminary exercises mentioned in the firing regulations, and also a careful instruction in the science of musketry, must precede actual target practice. The target practice includes: (a) Firing with target ammunition. (b) The school exercises of the second class, according to the firing regulations for infantry or cavalry, with either the rifle or carbine. (c) Exercises in revolver firing, according to the firing regulations for infantry or cavalry. (d) Instructional firing for ballistic purposes.

11. *Gymnastics, fencing, and swimming.*—Gymnastics: The instruction in gymnastics is for all pupils, but the training differs according to the arms in which they will serve. Fencing: For all pupils, to include fencing with the broadsword; for infantry, in addition, the bayonet exercise. Exercises in swimming are to be held whenever the opportunities occur and the means at hand will permit.

12. *Riding.*—The aim of the instruction in riding is to enable the pupils who belong to the dismounted arms to ride the average troop horse with a firm and easy seat, and over all sorts of ground.

The instruction of the pupils of the mounted arms corresponds to the requirements of the services to which they will be assigned.

13. *Visits of inspection outside of the garrison.*—Five or six days, depending on the location of the different war schools, are spent by the pupils in these visits. They are made to various fortifications, pioneer exercise grounds, polygons, etc. At the war school of Potsdam five

days are allowed for this purpose, and are divided in the following manner: Two days in Spandau (fortress and military establishments). One day in Berlin (pioneer exercise ground). One day in Jüterbogk (artillery polygon). One day in Spandau (firing school).

The whole period of instruction at the war schools is divided into four terms, or quarters. Three of these terms are devoted to the theoretical course, while the fourth, which lasts about six weeks, is occupied by the practical course.

It is to be remarked that with few exceptions all the officers of the army pass through the war schools. The exceptions are: (a) Youths who have studied for one year at a university or certain high-class technical schools. "Avantageurs" of this class may at once be given the educational certificate required for a Port-épée-Fähnrich, and are eligible for the officers' examination without having six months' service. They must, however, be "chosen" before being appointed second lieutenants. (b) Cadets of the selecta class, as has been already explained. The selecta cadets are the only aspirants for commissions who are exempt from being "thrown out" by a vote of the corps of officers of the unit to which they are assigned. (c) Officers of the reserve who are transferred to the active army do not pass through the war schools.

Ensigns of foot artillery and engineers who have passed the officer's examination are first appointed supernumerary or extrabudgetary second lieutenants of their respective arms, and are only appointed full or "etatsmässige" second lieutenants after going successfully through the combined artillery and engineer school at Berlin, and passing the professional or "berufs" examination before the "examining committee of the foot artillery and engineer and pionnier corps."

Before attending the courses of this school, all foot artillery and engineer officers are sent to their respective battalions or corps to serve about one year and nine months.

Formerly the officers of field artillery were on the same footing as the officers of the foot artillery in that they were commissioned at the start as supernumerary second lieutenants, and were obliged to pass through the combined artillery and engineer school before receiving their final commissions as officers. For the last three years, however, they have been on the same footing with regard to the first appointments as officers of infantry and cavalry, and are exempt from attending the artillery and engineer school and from passing the "berufs-prüfung." For the purpose of receiving their final instruction, however, they have to attend a course of four months at the field artillery firing school.

Saxony and Bavaria.—Saxony and Bavaria have their own cadet corps corresponding to the preparatory and upper cadet schools of Prussia, from which appointments are made to the Saxon or Twelfth army corps and to the corps of the Bavarian army. Saxony, however, has no artillery and engineer school, and officers of those arms have to pass through the Prussian school at Berlin. Bavaria has its own artillery and engineer school at Munich.

A P P E N D I X C.

**EXTRACT FROM A PAPER READ BEFORE THE WEST POINT BRANCH
OF THE MILITARY SERVICE INSTITUTION, NOVEMBER 15, 1894,
ENTITLED, THE PRELIMINARY EXAMINATION: WEST POINT.**

BY FIRST LIEUT. C. D'W. WILLCOX, SECOND UNITED STATES ARTILLERY.

I.

In any investigation bearing on the Military Academy considered as a school, its peculiar character as such must ever be kept in mind. So peculiar is this character that there is no risk in saying that the Military Academy is in a certain sense not a factor in the general system of education of our country. It exists for certain definite purposes; it accomplishes these purposes in its own way, and neither these purposes, nor their accomplishment, constitute for the vast majority of young men to be academically trained a subject of the least interest to them or to their parents and guardians.

* * * * *

The history of the preliminary examination is soon told. First established by Congress in 1812, it required that the candidate should be "well versed" in reading, writing, and arithmetic. No change was made in these subjects until 1866, when English grammar, United States history, and general geography were added. In 1870, the examination was made written. That is to say, if we leave out the first eleven years of the Academy's existence, during which its story is one of chaotic disorganization, the requirements of admission, originally of the simplest character, have been changed but once, and then only by the addition of elements equally simple.

* * * * *

II.

If we compare the minimum and the average age of candidates on reporting with the age of graduation from the high schools of the country, both public and private, certain conclusions follow. These ages are for us here, 17 as a minimum and $18\frac{1}{2}$ as an average; for graduation from public high schools the minimum is 18, and for private from 18 to 20. No account is taken of the common and lower schools, for at the average age of passing from them to the high schools a pupil would be three or more years below our minimum. Now, if candidates have had any school training whatever up to the time when they report,

or up to within a year or two of this time for ages greater than 17-18, it is clear that they must have obtained it in the high schools of the country. It results, therefore, that these are of especial interest in the present discussion, for it is upon them that we must build if we are to build at all.

Let us first inquire into their distribution. This inquiry is pertinent, because of the argument so frequently made that the different parts of the country enjoy very unequal advantages in the matter of education, and that consequently any elevation of our standard of admission would hurtfully affect all but a small minority of the older and richer States. Of course this argument is based on a false conception of the purpose for which this academy exists, but, unsound and mischievous as it is, it is continually put forward, both in Congress and out of it, and it rarely fails to carry weight whenever and wherever it may be expressed.

High schools.

PUBLIC.

Name of division.	Number of schools.	Number of pupils (male whites).
North Atlantic.....	845	32,548
South Atlantic.....	106	2,839
North Central.....	1,448	30,721
South Central.....	197	4,000
Western.....	117	2,429

PRIVATE.

North Atlantic.....	531	19,201
South Atlantic.....	363	8,751
North Central.....	305	10,564
South Central.....	380	8,302
Western.....	135	2,436

The latest data available in the investigation of this distribution are contained in the report of the Bureau of Education for 1890-91, published in 1894. In this report the United States are grouped, as in the census, into certain great geographical divisions that lend themselves readily to purposes of comparison. For example, the North Atlantic division includes New England and the neighboring States of New York, New Jersey, and Pennsylvania. The South Atlantic and the South Central divisions include all the Southern States, while the North Central and the Western include all the Western States. Of these divisions the North Atlantic and possibly the North Central are the only ones that, by popular hypothesis, would not suffer from raising the standard of admission. And at first blush, the hypothesis would appear to be justified. For if we compare the numbers tabulated below, the advantage seems to be overwhelmingly in favor of the two divisions mentioned.

Certainly the 52,000 of the North Atlantic, the 50,000 of the North Central, when compared with the 25,000 and the 6,000 high-school pupils of the South and the West, respectively, would show that the

former divisions far outstrip the remainder of the country in matters educational. But such a comparison would be unfair. Indeed, the data given do not represent the distribution of high schools except geographically. To make a fair comparison we must obviously take population into account, and in the Southern States only the white population; for it is evidently illogical, in determining the distribution of high-school facilities, to include a class of inhabitants not reached by this distribution. While in some Southern States the blacks outnumber the whites, and form, in all the remainder of them, a very large percentage of the population, in none of them, save the District of Columbia and South Carolina, do the black pupils amount to more than a small fraction of all the high school pupils. To include the negroes, then, would be to give a totally incorrect indication of the spread of school facilities in those States in which negroes exist in large numbers. For this reason they have been omitted in the Southern States, and, for the sake of exact comparison, they have been omitted throughout, in company with the Chinese and the Indians. But this omission is of no consequence, so far as North and West are concerned. For example, in the North Central division it makes a difference of less than 0.004 pupils per 1,000 of population. In the North Atlantic division the effect of the omission is somewhat greater—0.02 per 1,000 of population.

These conditions premised, and taking as unit 1,000 of population, we have the following results:

PUBLIC HIGH SCHOOLS.

Number of white pupils per 1,000 of population:

North Atlantic division	1.90
South Atlantic division .....	.68
North Central division	1.82
South Central division .....	.55
Western division	1.20

PRIVATE HIGH SCHOOLS.

North Atlantic division	1.12
South Atlantic division	1.57
North Central division .....	.48
South Central division	1.13
Western division .....	.85

These tables show at a glance that where the public school-system is weak the private is strong, and reversely; more specifically, that while the Southern States are inferior to the remainder of the Union in public schools, they are much superior in private so far as distribution is concerned.

Adding these results together we have:

PUBLIC AND PRIVATE HIGH SCHOOLS.

Number of white pupils per 1,000 of population:

North Atlantic division	3.02
South Atlantic division	2.25
North Central division	2.30
South Central division	1.68
Western division	2.05

It is submitted that, from the point of view of this paper, these results are not unfavorable. New England and adjacent States surpass the rest of the country, but in a ratio that is by no means excessive. In three of the five divisions containing over one-half the population of the country, the distribution is, for the purposes of this argument, uniform. For over 47,000,000 of inhabitants the ratio is over 2 to 1,000, and substantially not exceeding 3 to 1,000. The belief is ventured that these results are encouraging. In other words, it is believed that an increase in admission-requirements would not, as usually assumed, injuriously affect all but a small number of States. The difference in educational advantages, as measured by high schools, between the various parts of the country, is not so great as generally imagined.

Averages, however, tell only average truth. They may not tell a useful truth at all. Thus, in the case before us, it is pertinent to inquire into the distribution of the average itself. For, evidently, in any one of the great divisions given, some States may so excel in educational advantages as to credit other States of the same division with a standard to which these are not in the least entitled. Let us, then, investigate this question with respect to the least favored State. Defining such a State to be one in which the ratio of high school pupils to 1,000 of population is smallest, and applying the test, we have the following table:

Division and State.	Pupils per 1,000 of population.	Population.*	Division and State.	Pupils per 1,000 of population.	Population.*
North Atlantic:			North Central—Continued.		
New Hampshire	5.85	376,000	Illinois	2.00	3,700,000
Maine	5.38	680,000	Kansas	1.95	1,377,000
Vermont	5.22	532,000	Missouri	1.06	2,600,000
Massachusetts	4.66	2,216,000	Indiana	1.64	2,147,000
Connecticut	3.74	734,000	South Dakota .....	.69	730,000
New York	3.00	5,924,000	North Dakota .....	.49	163,000
Rhode Island	2.73	338,000	South Central:		
New Jersey	2.50	1,397,000	Mississippi	2.34	545,000
Pennsylvania	1.64	5,149,000	Tennessee	1.00	1,377,000
South Atlantic:			Alabama	1.00	324,000
District of Columbia	5.65	155,000	Texas	1.71	1,746,000
Delaware	4.07	141,000	Kentucky	1.40	1,891,000
Georgia	2.83	679,000	Louisiana	1.40	560,000
North Carolina	2.78	1,056,000	Arkansas .....	.93	320,000
Virginia	2.38	1,021,000	Western:		
South Carolina	2.07	462,000	Nevada	3.05	48,000
Florida	2.03	326,000	Colorado	2.43	490,000
Maryland	1.84	827,000	California	2.31	1,112,000
West Virginia† .....	.23	731,000	Utah	2.04	206,000
North Central:			Oregon	2.02	206,000
Ohio	3.20	3,585,000	Washington	1.61	241,000
Iowa	3.14	1,802,000	Idaho	1.30	22,000
Michigan	2.60	2,073,000	New Mexico	1.30	143,000
Wisconsin	2.33	1,681,000	Montana	1.12	128,000
Minnesota	2.27	1,297,000	Wyoming .....	.80	39,000
Nebraska	2.00	1,047,000			

* The next higher 1,000 is taken in all cases but South Carolina and Idaho.

† No private schools whatever are reported from West Virginia; the ratio 0.23 is, therefore, on the face of it, incorrect. Nevada's ratio (3.05) seems to be unduly great.

From this table we see that 4 States (counting the District of Columbia) have over 5 pupils per 1,000 of population, 1 State has between 5 and 4, 6 States (counting Nevada) have between 4 and 3, 17 States have

between 3 and 2, 14 States have between 2 and 1, and 5 States (counting West Virginia) have 1; or, 28 out of 47 States have over 2 pupils per 1,000 of population, and these States furnish by far the greater number of candidates. Of the 14 States having between 1 and 2 per 1,000, 10 are nearer 2 to 1,000 than 1 to 1,000. It is concluded that the average is, on the whole, fairly well distributed.

This is, however, not the only conclusion. Two additional results at least attract attention. Of these, the more important is that, with the exception of a few States of small population (like Delaware and Nevada), the more populous States have the greater number of pupils, both relatively and absolutely, under high-school instruction; or, the States that furnish the greater number of candidates also furnish, so far as high schools go, the greater facilities for educating them. The next conclusion in degree of importance is that in what are supposed to be the more backward parts of the country opportunities of instruction are not only fairly well distributed, but they will compare not unfavorably, all things equal, with those of the more fortunate parts of the land. Both of these conclusions bear directly upon the initial proposition, that in general, candidates, if they have any instruction at all, must get it in the high schools, both public and private.

Such being the distribution of high schools, both by great divisions and by States, it remains to be shown that candidates have come under its influence. At the same time, it is particularly desired to point out that no proof of this proposition is necessary in the general argument of this paper. If opportunities of instruction exist widespread, we have a right to force candidates to use them, whether they have done so in the past or not. This contention is held to be entirely sound. If, however, it can be shown that candidates have availed themselves of these opportunities, to just this extent will the general argument be unexpectedly strengthened.

For the last ten years exactly a record has been kept in the adjutant's office of the school history of the respective candidates as they presented themselves year by year. When begun, in the spring of 1884, it was taken of the classes actually under instruction, and in all cases it shows what sorts of schools have been attended and for how long. In short, this record furnishes a complete statistical account of the training of the persons to whom it applies. In collating the data the number of cadets and of successful candidates that had been to public high schools was first taken, then the number of those that had been to private but not to public high schools and lastly, of those that had been to normal schools, but no sort of high school. The object in all cases was to find the reach of school advantages. In many instances candidates had attended two, and in some few cases even all three, of the kinds of schools enumerated. Such cases were, however, for the reason just given, counted only once. And for the same reason the same analysis was made of the unsuccessful candidates. In respect of time spent at school, it should be added

that no period less than a month was taken into account. The results are tabulated on next page, and on account of their interest, are also represented graphically.

From this table we see that of 1,862 candidates, 1,299 or 77.2 per cent had attended high schools. Of those successful the percentage is 77.5, and of unsuccessful 76.6. It should be recollected that among the latter are to be found those rejected by the medical board, as well as alternates whose principals were successful.

Over three-fourths, then, of all candidates for the past ten years have of their own free will availed themselves of high school instruction. That is, not only is this instruction fairly well spread, but it reaches the classes from whom the greater number of candidates are drawn.

These results acquire special significance if brought face to face with the subjects usually studied in high schools. Obviously, the arguments so far brought forward are pointless, useless, unless these subjects are directly available for examination purposes. Now, it is precisely because they are available that the question of distribution has been gone into with so much detail. All the high schools in the country teach algebra and geometry, Latin, history, and others of the so-called English branches. Many of them offer French, German, Greek, physics, chemistry, and some of them even go into physiology and civil government. Of these subjects, those of special interest to us, as being those on which an elevation of standard would bear, are just those that are most generally taught. While French and chemistry, for example, are offered only in certain schools, algebra is offered in all of them. Some of these studies may be regarded as luxuries, others as necessities. The necessities are found everywhere.

Cadets under instruction March 6, 1894.

Class.	High school.		Normal school.	Total school.	Per cent of total school.	College.	Number in class.
	Public.	Private.					
1884.....	14	8	7	29	78.3	16	35
1885.....	24	19	2	45	87.7	12	44
1886.....	44	18	7	69	77.1	20	65
1887.....	45	43	11	99	75.2	20	70

Candidates admitted.

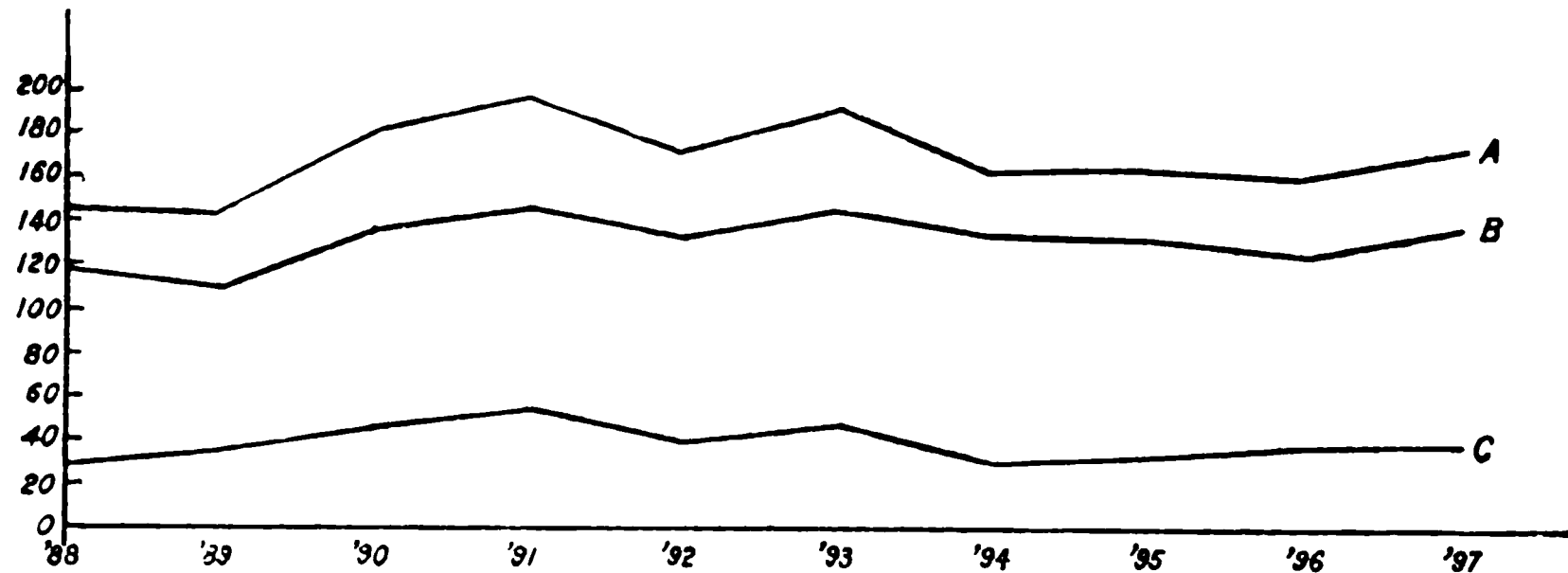
Candidates not admitted.

Class	High school.		Normal school.	Total school.	Per cent. of total school.	College.	Number admitted.	High school.		Normal school.	Total school.	Per cent. of total school.	College.	Number not admitted.
	Public.	Private.						Public.	Private.					
1884.....	32	16	14	62	81.8	86	100	28	15	7	50	74.4	12	47
1885.....	50	11	11	72	75.7	30	105	31	7	2	40	77.7	17	38
1886.....	67	16	36	119	76.8	29	157	38	5	4	47	71.1	27	66
1887.....	71	22	101	194	78.0	43	150	30	3	14	47	62.6	37	87
1888.....	50	14	74	138	73.2	31	109	31	2	19	52	76.5	29	60
1889.....	45	12	71	128	73.8	32	103	35	37	17	72	82.5	17	39
1890.....	52	8	98	158	80.3	36	124	40	6	16	62	72.1	24	56
1891.....	55	16	50	121	72.8	34	114	39	7	7	53	75.7	17	38
1892.....	55	16	33	104	72.6	30	100	38	9	9	56	75.7	17	38
1893.....	60	6	20	86	72.6	28	100	38	9	9	56	75.7	17	38

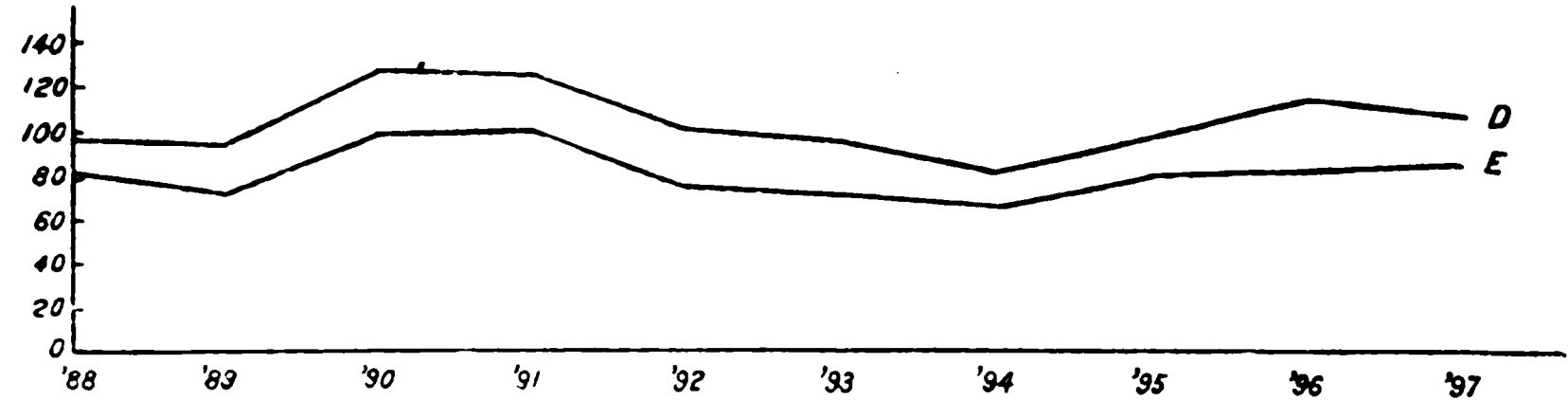
While the facts just stated are held to be sufficiently well-known to require no further explanation, it is, at this point, neither uninteresting nor uninstrusive to make a comparison between the favored and unfavored parts of our land, in respect of the number of students of algebra and of geometry. For it is the possible introduction of just these very subjects, that will excite the bitterest opposition from those who stick to it through thick and thin, that any increase would not exclude New England, but would exclude the South and the West.

With the same units and limitations as before, we have:

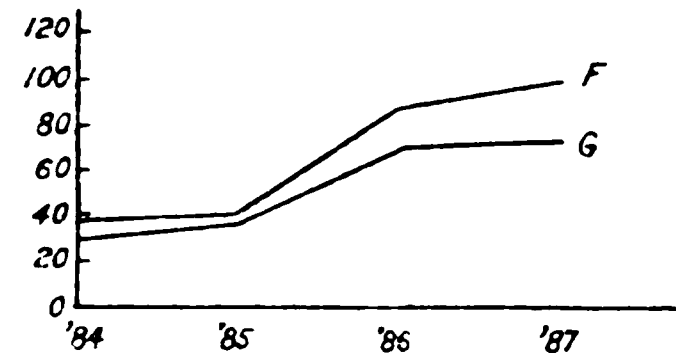
Number of students of algebra per 1,000:	
North Atlantic division	1.46
South Atlantic division	1.32
North Central division	1.15
South Central division	1.04
Western division	1.17
Number of students of geometry per 1,000:	
North Atlantic division .....	.90
South Atlantic division .....	.55
North Central division .....	.48
South Central division .....	.43
Western division .....	.66



- A. Total of candidates reporting.
- B. Total of candidates having attended high or normal schools
- C. Total of candidates that had not attended high or normal schools.



- D. Total of candidates admitted.
- E. Total of candidates admitted who had attended high or normal schools.
- F. Total of cadets under instruction March 5 1884.
- G. Total of cadets, etc., who had attended high or normal schools.



These results may fairly be called striking, not because the numbers are themselves extraordinarily large, but because these numbers are practically uniform, expressed in terms of the unit of 1,000 of population.

They become still more striking when we compare them with the total number of high-school pupils, in terms of the unit just mentioned. For then we have:

Percentage of high-school pupils studying algebra:

North Atlantic division	48.34
South Atlantic division	58.66
North Central division	50.00
South Central division	61.90
Western division	57.17

Percentage of high-school pupils studying geometry:

North Atlantic division	29.80
South Atlantic division	24.44
North Central division	20.86
South Central division	25.05
Western division	32.19

It must be borne in mind that all the results brought forward in respect of high schools are three years old. There is no reason for believing that they would be traversed by later data. While, however, it would be very difficult as yet to cover the past three years, it is legitimate in an inquiry like the present one to forecast the future, and that in spite of the fact that of all things to prophesy is one of the most dangerous. Whether the requirements of admission be increased or not, the steps taken, or to be taken, in the matter of secondary education bear directly on the questions under discussion. No apology, therefore, is needed for touching upon them to-night.

The National Council of Education in July, 1892, appointed a committee of ten, with President Eliot, of Harvard, as chairman, to report on the subject of secondary school studies in the United States. After due deliberation, the committee on November 10, 1892, appointed conferences of ten members each to report on the following subjects, respectively: Latin, Greek, English, other modern languages, mathematics, physics, astronomy and chemistry, natural history, history, and geography. These conferences were composed of professors and of school-teachers drawn from all parts of the country and representing all sorts of institutions, from high schools to universities. For example, the conference on mathematics included Professor Newcomb as chairman, but it also included teachers in boys' schools.

To these respective conferences was sent a list of questions covering the points on which it was desired that report be made, and in some sort fixing the limit thereof. In due time the conferences met and made their recommendations to the committee of ten. These formed the basis of a general report by this committee, which report, together with the special recommendations just mentioned, was published by the Bureau of Education in 1893.

(Of these recommendations some possess no present interest for us. Greek, for example, will never be a requirement for admission, and the

same may probably be said of physics, astronomy, chemistry, and natural history.

I shall, therefore, in respect of these, merely point out their bearing on the general mental development of candidates, and pass on to the more detailed, though necessarily very brief, consideration of those that are of practical interest to us.

And first, of English, the character of the recommendations may best be grasped by considering the requirements of admission to college, resulting from the course recommended. These are, the study of masterpieces of English literature; parallel reading of related works; some acquaintance with literary history and criticism, and, largely, the ability of the candidate to express himself clearly and correctly in all of his examination papers. It is supposed that the pupil has already received training in grammar and rhetoric. It is well to note here that the standard implied is neither ideal nor theoretical, for many colleges have already reached it.

Closely connected with English is the subject of foreign (modern) languages. The conference on this subject recommended the introduction of the elective study of either French or German at the age of 10; in any case, that such study should form part of the high-school course. Here again is it worthy of note that many schools, both public and private, teach French or German, or both, and that many colleges require to-day some knowledge of either or of both as alternatives of Latin or Greek.

Perhaps the most valuable and to us the most interesting recommendations are those made on the subject of mathematics. Like the house that defied the storm, West Point is built on a rock, and that rock is mathematics. Here, if anywhere, we might feel ourselves under compulsion to move slowly and surely in the matter of changing the admission requirements. It is therefore significant that the conference—of which, be it recollected, Professor Newcomb was chairman—recommended a course in arithmetic to begin at 6 and to end at 13, and one in concrete geometry for grammar schools, to be given in connection with drawing. The conference further recommended that systematic algebra should be begun at 14 and demonstrative geometry at the end of the first year's algebra, to be carried on two years. It expresses the belief "that if the introductory course in concrete geometry has been well taught, both plane and solid geometry can be mastered at this time," and that "boys going to a scientific school might profitably spend a year on trigonometry and some of the higher parts of algebra, after completing the regular course in algebra and geometry." These higher subjects accordingly find a place in the schedule carefully drawn up by the committee of ten to express their idea of the amount and nature of the work to be done in schools.

The recommendations on geography were of a revolutionary character. The suggestions made, if carried out, will involve a more or less radical change not only in the methods of teaching this subject, but

also in the conception of its nature. For example, "their definition of the word makes it embrace not only a description of the surface of the earth; but also the elements of zoology, astronomy, and meteorology, as well as many considerations pertaining to commerce, government, and ethnology." Whether we should ever be willing to follow the conference through its changes is more than doubtful. But even if it is certain that we shall not, it is not amiss to note the resulting extension of general knowledge, the formation of habits of observation, and of accurate statement. These are positive results, available in any branch of knowledge, that is, we could turn them to account in other subjects, both before and after admission. If, however, we may for the present be justified in taking a more or less negative view of the recommendations on geography, we shall not be justified in taking such a view of those on history. The conference on this subject was of the belief "that the time devoted to history and the allied subjects should be materially increased," and arguments are presented in favor of this increase. "They state strongly their conviction that they have recommended nothing that was not already being done in some good schools, and that might not reasonably be attained wherever there is an efficient system of graded schools," and "that the teaching of history should be intimately connected with the teaching of English."

It is, perhaps, within the knowledge of all our readers that one of the remarks most frequently made in criticism of officers of the Army bears on their lack of historical knowledge. It is only comparatively lately that a mere acquaintance with the bare outlines of our country's history has been thought necessary as a condition of entrance. The establishment of a course in history is of still more recent occurrence. And yet there is a whole branch of military science to which a knowledge of general history is a necessary introduction. It is not maintained that an examination covering more than our own country will furnish this essential, but it is maintained that if the general standard of historical studies is raised in accordance with the recommendations given above, the range of these studies at the Academy can be greatly increased. And of course that means higher requirements of admission in history.

Such is a very brief and imperfect outline of so much of this celebrated report as directly concerns us. Its significance and value lie in the fact that it unquestionably constitutes a new point of departure in the development of secondary schools. A high but not unattainable standard has been set before them. We shall here at the Academy feel the effect of this, whether directly or indirectly. But if we have it in our power to achieve greatness, shall we wait to have it thrust upon us? Bearing as they do directly upon admission to the Academy, are not the recommendations of the committee of ten worthy of serious consideration? It, being only recommendations, they have apparently received disproportionate attention to-night, it is because they really form an important, a necessary part of the subject in hand. It is as

though a general advance had been sounded along the whole line, an advance that will sweep us along with it, whether we are aware of it or not. If the question of secondary instruction is important to us, the probable development of this instruction can not be ignored.

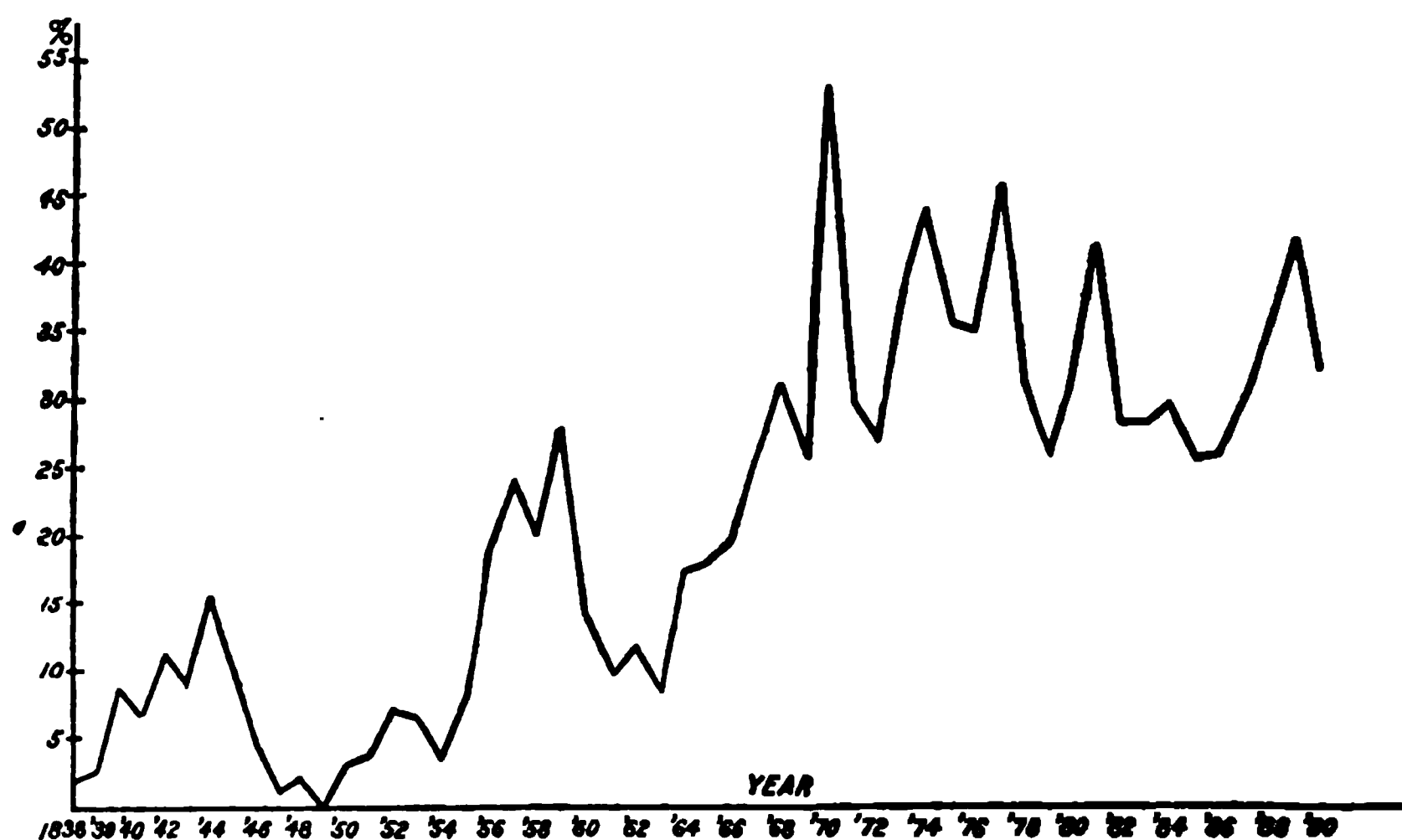
If now we group together the circumstances under which our entrance standard was originally fixed; the distribution of high schools, their reach over possible candidates, their courses of study, and the high standard to which these are tending, will anyone maintain that our entrance requirements are to-day in accord with these conditions? Is it not reasonably demonstrated that an affirmative answer must be given to the question that has served as a foundation for this whole argument? Does not the educational condition of the country justify an increase of the requirements of admission?

III.

To say that the Academy holds a unique position as an educational institution does not mean that we shall not profit by the experience of other schools. Particularly is this statement true when we reflect that until the beginning of the fourth year cadets receive no academic instruction whatever in purely military subjects. During the first three years of his career the cadet is undergoing mental training—training that of course he can turn to immediate account in his subsequent profession, but still, mental training not in itself professional. We are therefore at liberty to compare this institution with others in those respects in which they all agree. This comparison may obviously be made with any college or university, but will be limited in this discussion to technical schools, which, like the Academy, are giving training as a foundation for professions of responsibility. And of course the comparison involves only conditions of admission.

Mere examination of the accompanying table is all that is needed. But certain questions suggest themselves. If these schools, training men for responsible professions, find it safe to exact more than mere rudiments, why should we not find it safe here? Is it not worth while to make the experiment? Are we in a position to say that it would be hurtful? The better colleges and universities from time to time add to their admission requirements, thereby marking their faith in the soundness of the educational growth of the country. Might we not with safety follow their example, especially when we reflect that, unlike them, we do not depend on popular favor for existence, that we do not depend on students to meet expenses? It is clear from this table that all these requirements bear a distinct relation to subsequent courses. Now, if we look at our standard after admission, if we reflect upon the effort necessary to graduate, upon the character of the profession of arms, even in our own unmilitary country, we are forced to the conclusion that our entrance requirements bear no relation to subsequent efforts. The object of an entrance examination is, or should be, to measure acquired knowledge, and to test fitness for further training.

Ours does neither. For example, our backbone being mathematics, our examination calls for no knowledge of this branch, and most certainly is no test of the candidate's ability to pursue it. Let us take English, and let us take it because the cadet will have to use his native speech with accuracy and flexibility in many varied subjects. Roughly speaking, all that we ask is that a candidate shall not make more than a certain percentage of errors in spelling, reading, and elementary parsing. Surely it will not be claimed that our standard is what it ought reasonably to be. The examination is not even competitive. The Government is ready to give, and does give, a life position in the most honorable and responsible of professions, not to the boy who can read and write and cipher better than his neighbor, but to any boy who can read and write and cipher sufficiently well to escape being called a dunce. But suppose the examination were competitive; would that be



Fluctuation (per cent) in numbers of candidates found deficient, 1838-1890.

enough? If present conditions are maintained, any boy of ordinary intelligence can at short notice come up to our requirements; that is to say, we declare to the world that we have no special requirements for a highly specialized profession. In making such a declaration, are we doing our full duty to the service? Have we no rights of our own, no responsibility in the premises? Of course some one will object that even now many boys fail to get in, and conclude therefrom that we require enough. The premise is admitted, but the conclusion flatly denied. What if many boys should fail to enter under a higher standard? Is it our business to let in a great number of boys, or is it our business to get the best material possible? If there are every year so many failures both before and after admission, it is not because the entrance standard is too high, but because it is too low.

School.	Age.	Languages.				History.	Mathematics.				Phys-ics.	Chem-istry.	Draw-ing.	Remarks.
		English.	French.	Ger-man.	Latin.		Arith-metic.	Algebra.	Geom-etry.	Trigonom-etry.				
Sheffield Scientific (Yale).	15	Whitney's Grammar, or equivalent.			Four books: Caesar, two Virgil (compulsory).	United States.	To include metric system.	To include series, combinatory, analysis, etc.	Plane, solid, spherical.	Construction and use of tables; solution of plane triangles.				Candidates "are urgently advised" to make themselves acquainted with history of England.
Lawrence Scientific (Harvard).		To include reading of standard works designated in advance, and a composition on a subject drawn from same.	Translation of ordinary prose; some sight reading.	Same as French.		United States; England.		Through quadratic equations.	Plane.		Optional.	Optional.		Advanced mathematics may be offered. French and German alternative.
Massachusetts Institute of Technology.	17	Composition in one hour of an essay, correct in all respects, on some subject drawn from standard authors.	Ability to translate simple prose at sight.	do.		United States (or Ancient).	To include metric system.	Through progressions.	Plane, five books.					After 1894, solid geometry or advanced algebra. "It is the intention of the faculty to require both of these at no distant day." French and German alternative.
Columbia School of Mines.	18	Good English in all examination papers; composition as in Massachusetts Institute of Technology.	Ability to read easy French; elements of grammar.	do.		United States.	do.	Equations, second degree, series.	Plane, solid, spherical.	Plane; use of tables; solution of triangles.			Free-hand.	
Rose Polytechnic, Terre Haute, Ind.	16	Grammar.				do.	Required.	Through quadratic equations.	Plane.					Geography is also required.
Worcester Polytechnic, Worcester, Mass.	16	Grammar. Composition on some subject drawn from works required to be read.	Ability to read, based on study of 250 pages of ordinary prose; sight reading.			do.	To include metric system.	Through quadratic equations, ratio and proportion.	Plane, solid.					
Rensselaer Polytechnic, Troy, N. Y.		Grammar, essay of 150 words on subject given during examination.					do.	Through quadratic equations.	Plane, five books of Chauvenet.					Do.

Entrance requirements of certain scientific schools, with those of the naval and the military academies, 1894—Continued.

School.	Age.	Languages.				Mathematics.					Remarks.			
		English.	French.	German.	Latin.	History.	Arithmetic.	Algebra.	Geometry.	Trigonometry.		Physics.	Chemistry.	Drawing.
Naval Academy.	15-20	Reading, writing, spelling.				United States.	Arithmetic.	Simple equations of one or more variables.						Geography is also required. Spelling throughout considered in marking papers.
Military Academy.	17-32	Reading, writing, spelling (grammar).				do	do	do						Geography required.

In justification of this statement, let it be remembered that the number of failures depends on two things, the method of selection, and the standard itself. The former is not under the Academy's control, but that it greatly affects the number of failures is self-evident. These two independent influences are combined in the preliminary test, and it is therefore distinctly incorrect to charge, as so many have charged, all the failures to one of them alone. For, if we examine the percentages of failures to total examined year by year, from 1838 to 1890, inclusive, it will be found that these percentages follow no law whatever. Now, were the standard alone responsible, just the opposite would be true; some relation would manifest itself, by at least the absence of such great fluctuations as do exist.

The hypothesis of poor selection fully accounts for the results observed. But this indifference to selection is itself largely accounted for by the low standard of admission. For, evidently, if the requirements do not exclude poor material, the field of selection is thereby extended so as to include poor material. Bad selection bears, moreover, not only on numbers of candidates rejected, but also on numbers of cadets found deficient. In no other way can we rationally account for the great fluctuations in these, as observed from year to year. Nothing, therefore, can be more illògical than the cry that the standard of the Academy, both before and after admission, is too high, and nothing can be more reasonably certain than that this cry is traceable not to our severity so much as to our laxity, in so far as laxity and low standard of admission are identical terms.

Let us be honest in this matter. Instead of using the power that is clearly ours, that it is our duty to exert in forcing the worst candidates to come up to a right standard, it has come to pass that we have sunk to the standard of the worst candidates. If this be the case, it follows that, in range at least, our own standard after admission is adjusted to the abilities of the poorest candidates that succeed in entering. If, therefore, present conditions shall prevail, we either betray indifference to the possibility of improvement, or else stand alone in virtually declaring that this possibility is nonexistent. And we shall be practically allowing the poorest material that political or other influence can send us, to limit our development by accepting the qualifications of that material as our point of departure.

It is a law in matters of education that the higher we rise in the scale of institutions the greater the influence exerted by any member of the scale on those below it. The higher schools react on the lower, but not conversely. This law is based on experience, and is indeed but a special case of supply and demand. Hence, if we raise the standard of admission, we shall find beyond peradventure that our raw material will be improved. We shall get better candidates, because, more effort being required to get in, only those who are able to get in will make the effort. These reflections are generally true;

they are independent of all other considerations. But when not only the moral aspect of the case but also independent and unrelated facts support the contentions of this paper, then there is no longer room for doubt; we ought to increase our requirements, but we can increase them, whether we ought to or not.

It may be objected to all that has been said so far, that it consists of destructive criticism merely. But destructive criticism is not necessarily unsound, and it is no part of its duty to point out corrections for the defects that come under its notice. Waiving all this, however, the following schedule of subjects for entrance examination is submitted as the practical result of the discussion:

Candidates are required to be well versed in reading, writing, and spelling; in English grammar and composition; in arithmetic, to include the metric system; in the history of the United States; in the descriptive and the physical geography of the United States; and to have a fair knowledge of algebra, to include quadratic equations; of plain geometry; of the more distinguished English authors, and of such of their works as may from time to time be announced; of the descriptive geography of the earth, and of general history.

Candidates may offer to be examined in drawing; in French, so far as to read ordinary prose; and in Latin, to include such works as Caesar's Gallic War, and the simpler orations of Cicero. The subjects of the optional examination shall be weighted, and considered as counterbalancing some deficiency in the required subjects.

In the execution of this programme no change would be suddenly made. This would manifestly be unfair to all concerned—to candidates, who have a right to the serving of due notice, and to the Academy itself, which would need time in order to make a thorough study of the necessarily consequent changes in its various courses. Unquestionably fewer candidates would at first succeed in entering. But this is in itself no evil, and let it be remembered that fewer cadets would be found deficient. This statement is supported by the experience of the Academy itself, as may be seen from the following table, for since the preliminary examination was in 1870 made written, i. e., more searching, not more difficult, the percentage of graduates to total admitted has risen.¹

Percentage of graduates to total admitted:

1840-1849	48.90
1850-1859	48.26
1860-1869	62.85
1870-1879	54.00
1880-1889	50.41

The number of officers, therefore, supplied to the service would in all probability be just as great as it is now, while the work of getting

¹ Very large classes were graduated in the decade 1860-1869. The war probably sufficiently accounts for this.

rid of the unfit material would be put where it properly belongs, and would cease to be a drag on the Academy itself. But this particular effect—the admission of fewer cadets—would more than probably be only temporary. The invariable law of such cases would at once begin to operate; prospective candidates would work up to the higher standard, and in a few years this difficulty, if difficulty it be, would cease to exist. To all objections that might be raised on this score, it is a sufficient reply that the changes giving rise to them are in the interest, I shall not say of the Academy nor of the service, but of the candidates themselves.

* * * * *

Table showing the number of candidates from each State and Territory, examined and rejected by academic board, from 1838 to 1894, inclusive.

[This table was kindly furnished by Professor Bass.]

State or Territory.	Num- ber ex- amined.	Num- ber re- jected by A.B.	Per cent re- jected by A.B.	State or Territory.	Num- ber ex- amined.	Num- ber re- jected by A.B.	Per cent re- jected by A.B.
Alabama.....	172	53	30.8	Nebraska.....	40	16	40
Arizona.....	12	5	41.7	Nevada.....	19	12	63.2
Arkansas.....	82	35	42.7	New Hampshire.....	61	10	16.4
California.....	79	20	25.3	New Jersey.....	134	24	17.9
Colorado.....	18	6	33.3	New Mexico.....	16	4	25
Connecticut.....	93	17	18.3	New York.....	762	160	21
Dakota.....	7			North Carolina.....	196	58	29.6
Delaware.....	29	7	24.1	North Dakota.....	5	3	60
District of Columbia....	28	2	7.1	Ohio.....	459	111	24.2
Florida.....	30	7	23.3	Oklahoma.....	1		
Georgia.....	196	55	28.1	Oregon.....	15	3	20
Idaho.....	15	10	66.6	Pennsylvania.....	618	139	22.5
Illinois.....	322	88	27.3	Rhode Island.....	44	9	20.5
Indiana.....	281	85	30.2	South Carolina.....	143	43	30.1
Iowa.....	130	34	26.2	South Dakota.....	5	1	20
Kansas.....	73	26	35.6	Tennessee.....	259	86	33.2
Kentucky.....	252	72	28.6	Texas.....	118	46	39
Louisiana.....	107	31	29	Utah.....	16	2	12.5
Maine.....	98	14	14.3	Vermont.....	60	12	20
Maryland.....	158	46	29.1	Virginia.....	272	77	28.3
Massachusetts.....	225	45	20	Washington.....	14	3	21.4
Michigan.....	159	46	28.9	West Virginia.....	59	24	40.7
Minnesota.....	59	16	27.1	Wisconsin.....	126	32	25.4
Mississippi.....	130	40	30.8	Wyoming.....	18	7	38.9
Missouri.....	227	73	32.2	At large.....	612	77	12.6
Montana.....	13	5	38.5				

Consolidated table of statistics respecting candidates, 1838-1890.

(This table was kindly furnished by Professor Bass.)

Year	Number appointed.	Referred by academic board.	Referred by medical board.	Appointments canceled.	Declined appointment.	Failed to report.	Admitted.	Percentage reported by academic board.	Eliminated.	Percentage graduated.
1838	133	2	1	1	1	16	111	1.77	56	56.4
1839	91	2	1		6	6	76	2.75	30	51.1
1840	106	8	2		4	8	84	2.82	25	29.4
1841	131	8		1	1	7	114	5.56	41	38
1842	144	17	9			9	106	13.4	59	54.1
1843	77	6	6			3	60	9.09	34	63.3
1844	96	14	1			6	75	13.7	39	50.7
1845	98	9	1		2	5	81	10	43	51.1
1846	131	6	1		2	9	103	4.61	44	42.7
1847	84	1	3		3	3	74	1.33	42	56.7
1848	84	2			1		81	2.41	43	53.1
1849	95		2		1	4	88	0	52	59.1
1850	98	3	2	1		2	90	1.22	46	51.1
1851	81	3				7	71	4.05	34	47.9
1852	102	7	3			2	90	7.22	49	54.4
1853	97	6	1	2		8	83	0.74	38	45.4
1854	129	4	4		2	103	3.74	27	26.2	
1855	96	7	7		1	4	80	8.15	22	27.5
1856	101	17	4		2	6	72	18.97	41	56.9
1857	132	26	6		8	7	82	24.07	70	96.3
1858	106	10	4	3	1	7	75	20.31	29	37.3
1859	91	20				5	60	27.9	23	41.7
1860	84	12				72	14.29	17	37.5	
1861	148	13	2	2		23	106	10.74	68	63
1862	96	11				4	81	11.84	41	50.6
1863	126	9	3			10	99	8.37	61	63.6
1864	101	15			1	12	73	17.04	54	74
1865	101	16	4		2	5	74	17.75	39	52.7
1866	96	17	1		5	2	70	19.54	56	82.8
1867	84	19	1		2	7	65	25.67	41	74.5
1868	127	24	3	1	2	11	76	30.9	57	75
1869	112	24	7		7	4	70	25.54	41	58.6
1870	103	73	4		16	5	65	52.89	41	63.1
1871	131	32	11	2	1	9	79	39.63	43	54.6
1872	105	35	30		1	14	65	28.92	48	50.5
1873	239	74	13		7	19	114	39.43	76	61.4
1874	173	66	4	2	3	12	69	42.56	41	48.3
1875	206	66	6		3	9	121	35.44	67	55.4
1876	187	53	3		3	10	99	35.09	52	53.1
1877	209	87	3	1		13	96	45.9	51	53.3
1878	174	46	1	2		20	103	31.06	37	36.3
1879	146	30		4		30	88	25.42	52	59.1
1880	139	34	2	1	1	22	73	31.77	27	36.7
1881	200	60	4	1	1	46	65	41.37	38	45.9
1882	216	51	3	2	4	18	129	28.33	77	59.7
1883	235	56	3		3	23	141	26.42	84	45.4
1884	178	42	9		1	23	106	29.57	44	44
1885	171	33	8		1	27	95	25.78	49	51.6
1886	215	45	7	1		34	128	26.01	54	42.2
1887	258	56	18	1	4	41	127	20.8	65	51.2
1888	210	56	16			29	101	26.67	62	61.4
1889	231	68	25		2	33	96	41.44	51	51.1
1890	196	53	30		1	22	81	22.38	54	66.7
Total	7,364	1,480	277	27	111	642	4,744			

REPORTS OF COMMITTEES.

APPOINTMENTS AND EXAMINATIONS.

Messrs. WASHINGTON, BLAIR, and VENABLE.

Your committee on appointments and examinations beg leave to report to the Board of Visitors that they have devoted considerable time to the investigation of the two subjects embodied in the title of this committee.

First: Your committee is of the unanimous opinion that the number of appointments of candidates to the Military Academy should be substantially increased. The cost of graduating a candidate under the present system is large, but, in the opinion of your committee, it is money well spent. There are accommodations in cadet barracks for a much larger number than the present average membership of the corps of cadets. An increased number could receive instruction without any corresponding increase in the corps of professors and instructors. The probable cost of such increase will be found in the table annexed to this report.

There can be no doubt in the minds of thinking men that in a country such as ours, with a small standing army and dependent upon its volunteers for defense in time of danger, the presence among our people of young men, trained in such a school as this, will amply repay a thousandfold the expense of their education. As the case now stands the Academy does not graduate enough men to fill the vacancies in our skeleton Army. Even should there be a surplus of graduates a portion of them might well be relegated to civil life. Their education and training would be a guaranty of speedy and permanent employment, and their services would ever be available to their country.

Your committee therefore recommends that the number of appointments to the Military Academy be increased, and that the Board ask of Congress to enact such legislation as will give to the President of the United States twenty appointments and one appointment to each Senator, Representative, and Delegate in Congress.

Second. In the opinion of your committee the standard of admission to the Military Academy is too low.

Historically considered, the law of Congress, enacted in 1812, required the candidate to be "well versed" in reading, writing, and arithmetic

Thus the law stood until 1866, when English grammar, United States history, and general geography were added to the above topics. In 1870 the examination was made written.

Every educated man of to-day is aware that the general standard of education throughout the United States, in the period from 1812 to the present day, has risen to an enormous degree. Every educational institution throughout the length and breadth of this land has participated in that rise save only the United States Military Academy.

At least one year of time out of the four years' course is consumed in the teaching of subjects with which every 17-year-old boy ought to be, and can be under the free-school system of every State in this Union, thoroughly familiar. To start a boy, then, at the point where the preliminary examination leaves him is a pure waste of time and money. In the effort to keep pace with other institutions the curriculum of the academy, starting at this low point, has become overcrowded, and the mental tax upon the students unnecessarily and unwisely severe. In no other military school in civilized countries is the entrance examination so absurdly low.

In Belgium the acquirements are a thorough acquaintance with French or Flemish; a fair knowledge of Latin, Flemish, French, German, or English; history; geography; drawing; and in mathematics, arithmetic, algebra, the elements of geometry, and plane trigonometry. For candidates who intend to enter the artillery or engineers' course, in addition to the above, the entrance examination embraces higher algebra, spherical trigonometry, analytical geometry, and descriptive geometry.

In Italy, to enter the military school of Modena, the candidate must pass an examination in the Italian language and literature; in history, geography, and elements of natural science; in arithmetic, algebra, geometry, and trigonometry; and the French language. To enter the military academy at Turin, which qualifies its graduates for the artillery and engineers, the entrance examination embraces, in addition to the foregoing, trigonometry, complementary geometry, and complementary algebra.

There are two academies in Austria, one the Theresa Military Academy, the other the Technical Military Academy of Vienna. The former prepares for the infantry, rifles, and cavalry; the latter for artillery, engineers, and technical troops.

The entrance examinations for the Theresa Academy embraces the German language; geography—mathematical, physical, and political; history—ancient, medieval, and modern; physics, including mechanics of solid, fluid, and gaseous bodies; wave motion, acoustics, optics, heat, magnetism, and electricity; chemistry, the elements of organic and inorganic chemistry, and the synthesis of the more important carbon

compounds; mathematics—arithmetic and algebra up to equations of second degree with two unknown quantities; arithmetical and geometrical progressions, theory of combinations, binomial theorem, geometry, planimetry, stereometry, plane and spherical trigonometry, elements of analytical geometry, calligraphy. For the Technical Military Academy the topics are the same as the foregoing, with the addition of descriptive geometry.

In England, to enter the Royal Academy at Woolwich, the preliminary examination topics are:

First. Mathematics, including arithmetic, algebra to the binomial theorem, inclusive; first to fourth and sixth books of Euclid; plane trigonometry; and statics, including equilibrium of forces in one plane and of parallel forces, the center of gravity, the mechanical powers; dynamics, uniform and uniformly accelerated, and uniform circular motion; falling bodies and projectiles in vacuo.

Second. Latin.

Third. French or German.

Fourth. English composition.

Fifth. Geometrical drawing.

In the higher mathematics, problems of friction, by the graphical method; analytical geometry; dynamics, to collisions and work, and conic sections. Greek, English history, elements of inorganic chemistry, elements of electricity, magnetism, light, heat, and sound; physiography and geology; geography and free-hand drawing.

In France there are two military schools, the Polytechnic, and the school at St. Cyr. The former trains its students for the artillery, engineers, the navy, and the hydrographic corps, the marine commissariat, the corps of highways and bridges, the manufactories of the State, the engineers of powder and saltpeter service, the mining engineers and the telegraph lines.

The entrance examinations to this school include first a written examination, embracing a paper on the course of special mathematics and a problem in descriptive geometry; a paper on the French language, a paper on physics and chemistry, a trigonometrical problem, a pen-and-ink (or India ink) drawing, a drawing of a bust from a plaster cast.

The oral examinations embrace:

First. Algebra, through higher algebra.

Second. Trigonometry, plane and spherical.

Third. Analytical geometry of two and three dimensions.

Fourth. Mechanics, kinematics, dynamics, and statics.

Fifth. Descriptive geometry to intersection of conical or cylindrical surfaces, or the intersections of surfaces of revolution whose axes intersect.

Sixth. Physics, optics, measuring instruments, such as verniers, etc.; weight, laws of falling bodies, etc.; hydrostatics, statics of gases, heat, calorimetry, change of state, such as fusion, etc.; hygrometry.

Seventh. Chemistry, organic and inorganic.

Eighth. French language.

Ninth. German language.

Tenth. Geometrical drawing.

The school at St. Cyr is intended to supply officers for infantry, cavalry, and marine infantry. To enter this school the candidate must prepare the following papers:

A paper on the French language, an exercise in German, a mathematical paper, a logarithmic calculation, a simple problem in descriptive geometry, a drawing in pencil from plaster cast, a shaded copy of a landscape; a topographical drawing.

Besides this, a satisfactory examination must be passed in—

I. History.

II. Geography.

III. German language.

IV. English (optional).

V. Algebra, through equations of second degree with one unknown quantity; arithmetical and geometrical progressions, and logarithms.

VI. Geometry, through spherical.

VII. Descriptive geometry, to projection of plane sections of spheres and cylinders of second order.

VIII. Plane trigonometry, through solutions of triangles.

IX. Analytical geometry, rectilinear coordinates only.

X. Mechanics, cinematics, statics, dynamics.

XI. Physics, hydrostatics, heat, electricity, optics.

XII. Cosmography, constellations, celestial sphere, the earth, construction of maps.

XIII. Topography.

In Germany the Upper Cadet School more nearly corresponds to our Military Academy than any other institution in that country. To enter this school every cadet must have been through one of seven preparatory schools, the usual course in each of which occupies nine years of instruction, the student being taken at about the age of 10. Upon the completion of the course at any one of these schools, the applicant for entrance to the Upper Cadet School must pass a satisfactory examination upon the following topics:

Religion, German, Latin, through books 1 and 5 of the Gallic war; French and English, grammar, reading, and conversation; mathematics, geometry, higher arithmetic, and algebra, through equations of first degree; history of middle ages to 1648; geography; physics; general properties of bodies, solid, liquid, and gaseous; elements of heat and chemistry, chemical union and combustion; topographical and mathematical drawing (free-hand drawing and writing optional).

A more extended description of these schools is printed as an appendix to the general report of the Board.

The table on p.— *infra*, taken from the paper of Lieutenant Willcox, shows in a compendious form the entrance requirements of the various scientific schools of this country.

It appears from the foregoing that the United States Military Academy in its requirements for admission lags far behind other respectable scientific academies in this country and in Europe.

As before remarked, this entails additional work upon the teachers and students in going over preliminary ground which would better have been cultivated before the applicant presents himself for admission. With a higher standard of admission, the curriculum of the Academy could be pruned of these studies, and others substituted in their place, in such wise that the Military Academy would be abreast of other institutions in the modern progress of learning.

Nor would this entail any hardship upon the masses of our people. A careful examination of the paper of Lieutenant Willcox, above mentioned, will show that in every State in the Union the poorest boy can find free tuition sufficient to fit him to pass an examination in much higher branches than the present law requires.

It is believed that the raising of the standard of admission will result in fewer rejections; first, because applicants of the average age of 18½ have, for the most part, advanced beyond the present standard and pass these examinations after a process of cramming long-forgotten details; and, second, prospective candidates would inevitably work up to the higher standard.

Your committee would therefore recommend that the Board embody in its report a suggestion to Congress to commit, by the proper legislation, the question of entrance examinations to the discretion of the Secretary of War, thus assimilating the Military Academy, in that regard, to the Naval Academy, or else to commit the question to the Academic Board.

Respectfully submitted.

JOSEPH E. WASHINGTON.

FRANK P. BLAIR.

RICHARD M. VENABLE.

DISCIPLINE AND INSTRUCTION.

Messrs. WRIGHT, VENABLE, AND BUTLER.

Your committee begs leave to report as follows:

DISCIPLINE.

Once that the candidate has been admitted to the Academy he begins his military life. He becomes a soldier, and must learn forthwith what the powers, duties, rights, and obligations of a soldier are. He must learn what military discipline is—to obey his superiors and to command properly those lower in rank. He must also pursue certain prescribed studies. He may not acquire very great proficiency as a student, but he must learn to be a disciplinarian.

Your committee has sought all available information with regard to the regulations governing the life of the cadet, and has come to the conclusion that the discipline of the cadets is to be entirely approved.

The discipline is severe, the regulations are all-pervading; but in no essential particular are they overbearing. At every point the cadet is taught to be an officer and a gentleman—the two interdependent factors of his whole military career. Therefore the underlying principle of the discipline of the Academy must be honor. The cadet is put upon his honor in his relations not only with his officers but with his fellow-cadets. Many of the most important regulations governing the conduct of the cadets would be of no effect whatever were not his superiors able to rely upon the truthful statements of the cadet.

The spirit of honor as between the cadets themselves is most commendable. They show a scrupulous regard for each other's rights. The result is a decided atmosphere of mutual toleration, which in turn breeds self-respect, whilst keeping down bullying. Were it not for this well-regulated code of honor there would be frequent outbreaks of the naturally high animal spirits of 300 young men separated from the outside world, their bodies in the pink of physical condition, their nervous systems overtaxed by the strain of their studies. In point of fact the average cadet shows admirable self-control—a most necessary qualification for a soldier.

Your committee does not wish to be understood as reporting a perfect system of honor, with all the results thereof perfect. But we are of the opinion that the practical working out of the code of honor system at West Point is as successful and satisfactory as the frailties of the human conscience will permit.

The routine of the cadet's life, except during the summer tour of duty in camp, is as follows: Reveille at 5.45 a. m.; roll call; police of quarters; cleaning arms, accouterments, etc.; an inspection of his room and an opportunity for a few minutes' study; breakfast at 6.15; guard mounting, at which but a small detail parades, at 7.15; then three-quarters of an hour of recreation; from 8 to 1 p. m. recitations and study; dinner at 1; then recreation until 2; from 2 to 4 p. m. recitations and study; at 4 p. m. military exercises, generally for about an hour; then about half an hour for recreation, followed by the retreat parade, at an hour varying according to the season of the year, but generally about 6 p. m. Immediately after retreat parade, supper; then about half an hour's recreation, followed by a call to quarters at about 7.30; then study in quarters until 9.30 p. m. At 10 p. m. lights are extinguished, and there is an immediate inspection of quarters to see that each cadet is in bed.

From the middle of June to the end of August the entire corps (excepting the second class, which is absent on furlough) is in camp. Then all the routine of the soldier's life is followed—drills, parades, guard duty, practical military engineering—but no instruction in studies during the ten weeks.

INSTRUCTION.

What the cadets study is here given:

Course of study and books used at the Military Academy.

[Books marked thus * are for reference.]

FIRST YEAR.—Fourth class.

Department.	Course of study, text-books, and books of reference.
Mathematics	{ Davies' Elements of Algebra. Davies' Legendre's Geometry. Ludlow's Elements of Trigonometry. Davies' Surveying. Church's Analytical Geometry. * Ludlow's Logarithmic Tables. Williams's Composition and Rhetoric. Abbott's How to Write Clearly. Meiklejohn's English Language. * Smith's Synonyms Discriminated. * Roget's Thesaurus of English Words. Webster's Dictionary.
Modern languages	{ De Peiffer's French Pronunciation. Keetel's Analytical and Practical French Grammar. Castarede's Treatise on the Conjugation of French Verbs Roemer's Cours de Lecture et de Traduction, Vol. I. Bocher's College Series of French Plays, Vol. II. * Spier's and Surenne's French Pronouncing Dictionary.
Drill regulations, United States Army.	{ Practical Instruction in the Schools of the Soldier, Company and Battalion— Infantry. Practical Instruction in the School of the Cannoneer—Siege and Light Artillery. * Blunt's Firing Regulations for Small Arms.
Use of the sword, etc..	{ Instruction in Fencing and Bayonet Exercise, and Military Gymnastics.

Course of study and books used at the Military Academy—Continued.

[Books marked thus * are for reference.]

SECOND YEAR.—Third class.

Department.	Course of study, text-books, and books of reference.
Mathematics.....	Church's Analytical Geometry. Church's Descriptive Geometry, with its application to spherical projections, shades, shadows, and perspective. Bass's Introduction to the Differential Calculus. Church's Calculus. Johnson's Treatise on the Method of Least Squares.
Modern languages....	Borel's Grammaire Francaise. Hennequin's Lessons in Idiomatic French. Revue Militaire de l'Etranger. The Weekly Figaro. Edgen's Compendious French Grammar. De Peiffer's French Pronunciation. *Spier and Surenné's French Pronouncing Dictionary. Monsanto and Languellier's Spanish Grammar. Knapp's Spanish Grammar. Mantilla's Spanish Reader, No. 3. Knapp's Spanish Reader. Eco de Madrid. *Secane, Neumann, and Baretti's Spanish Dictionary.
Drawing	Constructive problems in plane geometry. Point paths. Topography and plotting of surveys with lead pencil, pen and ink, and colors: construction of the various problems in descriptive geometry, shades and shadows, and linear perspective and isometric projections; practical surveying in the field. Reed's Topographical Drawing and Sketching, including photography applied to surveying.
Drill regulations, United States Army.	Practical Instruction in the Schools of the Soldier, Company, and Battalion—Infantry. Practical Instruction in the School of the Cannoneer—Light Artillery; and School of the Trooper—Cavalry. Practical Instruction in Small Arms, Target Practice.
Practical military engineering.	*Blunt's Firing Regulations for Small Arms. Practical Instruction in the Construction of Pontoon, Spar, and Trestle Bridges.

THIRD YEAR.—Second class.

Natural and experimental philosophy.	Michie's Analytical Mechanics. Michie and Harlow's Practical Astronomy. Young's General Astronomy. Michie's Elements of Wave Motion Relating to Sound and Light. Bloxam's Chemistry (seventh edition). Tillman's Elementary Lessons in Heat (second edition). Tillman's Essential Principles of Chemistry.
Chemistry, mineralogy, and geology.	Tracy's Anatomy, Physiology and Hygiene. Thompson's Elementary Lessons in Electricity and Magnetism (new and revised edition). Tillman's Elementary Text-Book of Mineralogy. LeConte's Elements of Geology (third edition). Free-hand Drawing, and Landscape in black and white. Mechanical and Architectural Drawing in ink and colors.
Drawing.....	Constructive details: Ordnance Constructions. *Reed's Topographical Drawing and Sketching, including Photography Applied to Surveying.
Drill regulations United States Army.	United States Army Artillery Drill Regulations. Tidhall's Manual of Heavy Artillery Service, U. S. A. United States Army Cavalry Drill Regulations. United States Army Infantry Drill Regulations. Practical Instruction in the Schools of the Soldier, Company and Battalion Infantry. Practical Instruction in the School of the Cannoneer—Seacoast Artillery: and in the Schools of the Trooper, Troop and Squadron—Cavalry.
Practical military engineering.	Practical Instruction in the Construction of Pontoon Bridges; in laying Gun Platforms, and in the Construction of Revetments and Obstacles. Practical and Theoretical Instruction in Military Signaling.

Course of study and books used at the Military Academy—Continued.

[Books marked thus * are for reference.]

FOURTH YEAR.—*First Class.*

Department.	Course of study, text-books, and books of reference.
Civil and military engineering and science of war.	Wheeler's Civil Engineering. Wheeler's Field Fortifications. Mercur and Mahan's Permanent Fortification (edition of 1887). Mercur's Attack of Fortified Places. Mercur's Elements of the Art of War. Mahan's Stereotomy.
Modern languages	*Royal Engineer's Aide-Mémoire, Parts I and II. Knapp's Spanish Grammar, Knapp's Spanish Readings. *Seoane, Neuman, and Baretti's Dictionary.
Law	Davis's International Law. Cooley's General Principles of Constitutional Law in the United States. Winthrop's Abridgment of Military Law. General Orders No. 100, A. G. O., 1863.
History, geography, and ethics.	Swinton's Outlines of the World's History. *Labberton's New Historical Atlas and General History.
Practical military engineering.	Practical Instruction in the Construction of Ponton, Trestle, and Spar Bridges; in the preparation and application of Siege Materials, and in laying out Field and Siege Works. Practical Instruction in Military Reconnoissance on foot and mounted; in Field Telegraphy, Night Signaling, and the use of the Heliograph.
Natural and experimental philosophy. Drill regulations United States Army.	*Ernst's Manual of Practical Military Engineering. Practical Instruction in Astronomy.
Ordnance and gunnery.	Practical Instruction in the Schools of the Soldier, Company, and Battalion—Infantry; of the Trooper, Troop, and Squadron—Cavalry; and of the Battery—Artillery. Bruff's Gunpowder and Interior Ballistics. Bruff's Ordnance and Gunnery. Ingall's System of Exterior Ballistics.

Your committee believes that when the qualifications for admission, the stint of work to be done, and the time—four years—are all considered, the results attained by the corps of instructors are most satisfactory.

Detailed criticism of the subjects of study or of the time to be devoted to each study is out of place at this time, in view of the fact that this committee believes that the standard of admission should be raised, and that the present curriculum should be continued substantially as at present until the changed conditions that may follow the raising of the admission qualifications call for a revising of the lines of study.

To our minds the paramount object to be gained now is raising the standard of admission. Hence, we do not wish to withdraw attention from that issue by discussing proposed changes in curriculum. First raise the admission qualifications, then see if they and the courses of study dovetail properly.

It is for this reason that we refrain from renewing the suggestions of previous boards that English and belles-lettres should receive more attention; that Spanish should be dropped, or that German should take the place of Spanish; that mathematics should be cut down, or that certain scientific courses should be enlarged. We recognize the force of the arguments used; we have considered the questions carefully; but we advise no decisive change in the studies taught until the standard of admission is raised. We hand down to some succeeding board the recommending of a correction of any inequalities that may

appear in the curriculum when the standard of admission shall have been raised.

We were firmly impressed with one great underlying cause of the success of this institution—the thoroughness of the instruction. This shows itself in many ways. The cadet must have a good physique; more than that, each cadet must be a good all-round gymnast. He must not only learn to ride; he must be an accomplished and daring horseman. He must not only learn to swim; he must be a strong and enduring swimmer. He is not simply encouraged to dance as a graceful and agreeable accomplishment; he must learn to dance well. Whatever there is of strength or grace in a man is developed to its utmost capacity.

So too, in the class room. The classes are divided into sections for each study, a section having but rarely over twelve cadets, and generally less than that number. Each section has an instructor. As a result, each cadet is sure to get in such a small section constant and direct supervision by his instructor. At the end of each month a new grading of the class is made according to rank in each study; therefore each cadet finds himself in each study in a section of men of pretty nearly equal standing in that particular study. By this perfect grading a great uniformity of progress is assured; bright men are not held back, nor are dull men forced ahead too fast. Every cadet has, therefore, in every study, in common with eight or nine other cadets of about his own caliber in that course, what amounts practically to a private tutor in that particular study. With so small a number reciting to him, this instructor—this private tutor, as it were—can watch each man's peculiarities, find out his failings, and develop his mental power to the utmost.

Only by this system of small sections and many instructors (made possible by the Government being able to detail as many officers to the Academy as the system requires) can the highly commendable results that are seen on every hand at the Military Academy be attained.

The military exercises were all carried out admirably. The Board had the unusual opportunity of seeing a most interesting and at the same time, in this country, a most rare sight—the drill of a battery of horse artillery, performed with great precision and intelligence, and with fine dash.

By vote of the Board of Visitors this committee was instructed to inspect the camp of the cadets. Accordingly, Mr. Wright and Mr. Butler made separate inspections at different periods of the encampment. Their reports are appended.

J. M. WRIGHT.
RICHARD M. VENABLE.
SIGOURNEY BUTLER.

REPORT OF MR. J. M. WRIGHT.

WASHINGTON, D. C., *October 1, 1895.*

GENTLEMEN: For the greater part of a century the Military Academy at West Point has been distinguished among military schools for maintenance of thorough discipline, dependent in part on watchful enforcement, but more dependent on a firmly established and well-defined code of personal honor. After several weeks of close observation and diligent inquiry, I am of the opinion that there has been no lessening of this obligation of honor, and I am disposed to believe that there is now less inclination to violate rules than when I was a cadet, at a time just preceding the war of the rebellion. This last condition is, perhaps, due to the circumstances that some of the most exacting requirements have been reasonably modified without detriment to discipline, and the average age of cadets has somewhat increased during late years.

There is a wide, popular belief that the West Point authorities have undertaken to repress hazing entirely. It seems to me they have, wisely, only endeavored to moderate it. So long as untrained men are admitted to the ranks of pursuits requiring special training, the informed will practice on the ignorance of their new associates. The natural tendency of young, vigorous, and hardy men is to make their joking rather rough. It may be said of the efforts made to soften this practice that the present form of hazing is mild compared to what it used to be. But to my mind the recent graduates do not appear to be more spirited men than those who went through all the old-time rough hazing, against which there has been such outcry as a practice that broke the spirit of sensitive young men. I saw the new class of this year penned up in barracks for the first three weeks, and I thought that, rather than be in the forlorn and protected condition their appearance indicated, I would prefer the rough-and-tumble early military lessons in camp that new cadets used to receive from the day the encampment began.

The best way to instill into cadets some consideration for the feelings and condition of new associates who have yet to learn the ways of military life, is to extend consideration to the old cadets themselves and surround them with some of the ordinary influences of refined life. No one can compare West Point as it is to-day with what it was a third of a century ago without noting the great improvement in this respect. The present condition of the mess hall is a guaranty of this improvement. I can see how men who left West Point in time to participate in the last war pulled through old-time rough hazing without broken spirits, but only a providential design to preserve them for the great occasion of the war pulled them through the daily experience of the old mess hall without ruined stomachs. At no greater expense than formerly cadets now enjoy the comforts of decent living—in the quality of food, the manner of serving it, and the equipment and surroundings of the dining hall.

I was detailed by the Board of Visitors to remain at West Point to witness the encampment and to observe the training of the new class for admission. I remained there until after the Fourth of July.

The battalion marched into a prepared camp. Formerly cadets pitched their own tents and learned the mystery of tent ropes and tent pegs. At the outset of the late war one of the most useful accomplishments of graduates was that they knew how to lay out camps and pitch tents and could teach the art to new-made soldiers. Now a cadet knows no more about this than a raw volunteer. He has not even the benefit of observation of a complete tent, for the cadet tents are not pegged, but roped to post and rails which find no place in regulations and would be difficult to obtain where there were no trees. A fresh graduate placing a company of troops in camp or an open city lot, or on an open prairie or "the plains," would not know from experience how to pitch a tent. The post and rail supports seem to be a relic of campaigning in the wooded regions of the South.

The laying out of camps is a very exact art in military requirement. A special feature of regulation is that all the ridgepoles shall be straight and parallel.

The camp allowance of clothing is now so large that additional clothing receptacles are swung to the ridgepoles. Every ridgepole was thus made "sway-back" and the effect on the outside appearance was most ungainly and not in conformity to regulations.

Formerly a camp outfit of dress was one overcoat, dress coat and hat, white trousers, fatigue cap, fatigue brown-linen jacket, underclothing; and for upper classmen, a cloth riding jacket.

In addition to the above (except the brown-linen jacket) each cadet now has in camp a rain coat, a top woolen shirt (worn without coat), winter trousers, white jacket and helmet, a cloth undress coat. Formerly a cadet habitually wore his dress coat; now he habitually wears the cloth undress coat or blouse.

Where formerly he had only walking shoes and dancing shoes, he now has one or more kinds of overshoes and all the various shoes that go with the various games and exercises he affects. With an inspecting officer one day I saw in one tent an area of a square yard of shoes.

As all this is permitted and required by officers trained in the earlier, more limited dress experience, it is to be presumed there is good reason for it. But the earlier lesson of how very light of baggage a company officer must travel is not now taught.

The most distinguishing feature of West Point is the drill. Its finest test is in the rapid conversion of new cadets into well-drilled soldiers who may be absorbed by the battalion of cadets with no material impairment of its precision and appearance.

I witnessed the drills of the new cadets from the beginning until they were qualified for guard duty and the most advanced participated in the battalion parades. The system pursued at West Point is far beyond any drill system that I have witnessed in this country, under somewhat favorable opportunities for observation. At West Point great attention is given to the setting-up drill, and unremitting exercise is the cure for the soreness of unaccustomed exercise. After the drills begin nothing can be forgotten through cessation.

Marked improvement was noticeable after three days' drilling three times a day. The work is severe on the attention and the body, but is so perfectly adapted to the healthy development of both mind and body that the fatigue is natural and productive of a repose that readily restores the normal condition. Under the closest scrutiny I failed to detect any lassitude indicating previous overexercise. As rapidly as drill followed drill, the new men came out fresh and always with more elasticity, vigor, and ease than on the previous drill.

When it is considered that their drills were during a part of the warmest period of last summer, and that these young men for the most part were unused to constant hard exercise in such weather, the results were remarkable.

Comment has at times been made by observers on the manner, and especially the harshness, of the drill corporals, who themselves are cadets of only one year's experience. Unless one thoroughly examines the drill system at West Point these corporals seem to be rather pretentious, overbearing, and severe. But they accomplish the requirement of keeping the recruit's constant attention, and those who have drilled new men, unbacked by the absolute authority there is at West Point, know how indispensable and yet how difficult it is to keep the attention of recruits on the movements and explanations of the drill.

In recent years cadet corporals have been appointed before their ability to drill new men has been tested. Formerly a number of the most military men in the class just closing its first year were turned out to drill new cadets, and from the most efficient of these drillmasters the cadet corporals were selected. As it is the business of the corporals to teach the new men the school of the soldier, the old plan would seem to be the best. Under the old plan I do not think all the corporals I saw drilling squads would have been selected.

Every profession, including the military, has a nomenclature, phraseology, and traditions, not taught as a part of the curriculum, but considered among the graces of professional accomplishment. I made note of questions I knew of being asked

cadets, but which received no satisfactory answer, and it seemed to me a want of information on such subjects indicated that professional inquiry needed stimulation among the cadets. At all events, the cadets to whom the questions were addressed exhibited considerable surprise as well as embarrassment at their own lack of information. The questions were asked by visitors in pursuit of information, and among those not answered by anyone were these: Why morning parade is called "troop parade;" why putting on a new guard is called "guard mounting;" why the flag comes down at retreat or sunset, and why the song of the Star Spangled Banner refers to the flag as floating all night; the origin and meaning of the morning and the evening gun; the origin and meaning of the sentinels calling the hours; why, when the flag is at half-mast, it is run up before it is run down at night; why the sentinel's challenge of "Who goes (or comes) there" has been changed to "Halt! Who is there?"

And, though probably asked in mere curiosity, these are not unimportant questions. In their answer may be found a large part of the history of armies and armed places, and concerning our own Army an explanation of the various influences that at various times have affected our military development. It does not seem impossible that this part of the accomplishment of a soldier might be agreeably taught in lectures on the military profession, its customs, traditions, and history.

Very respectfully,

J. M. WRIGHT.

The COMMITTEE ON DISCIPLINE AND INSTRUCTION.

REPORT OF MR. SIGOURNEY BUTLER.

BOSTON, *October 1, 1895.*

SIR: I have the honor to report to you, as chairman of the committee on discipline and instruction of the Board of Visitors to the United States Military Academy at West Point, that, pursuant to the vote of the Board of Visitors, I returned to the post and inspected the camp of the corps during the latter part of August, 1895, being courteously received by the Superintendent of the Academy, the Commandant of Cadets, and the tactical officers in charge.

(1) The camp is admirably located. Much time is saved by having the parades at guard mounting, infantry drill, and dress parade held on the small parade ground, immediately adjoining the encampment, instead of on the large parade ground.

(2) Generally speaking, the cadets seemed in splendid physical condition. I found, however, quite a number of cadets reporting at sick call, suffering from what was thought to be a slight attack of chills and fever. Probably these were only fugitive cases of malaria.

(3) I followed the entire routine of the day, and found it to contain enough strictly military work to keep the cadets well employed without being unduly exacting.

(4) The drills were well up to the high standard of proficiency that obtains in the corps. The fourth-class men, who had been but two months under instruction, had already acquired steadiness and a soldierly bearing.

(5) Guard mounting and the various duties of the sentry were well performed; the occasional mistakes of the fourth-class men were, of course, pardonable by reason of their having been under instruction but two months.

(6) The company streets and quarters were well policed, and the orderly conduct of the cadets at all times was very noticeable.

(7) Military courtesy was perfect.

(8) The commandant and the tactical officers show great consideration for the health, comfort, and pleasure of the cadets. For instance, on a hot morning, the fourth-class men were turned out for light-artillery drill without fatigue blouses, and the

class in practical military engineering was allowed the same privilege. Again, at the time of my visit, a stage and proscenium were being erected at the color line for a theatrical entertainment, which the cadets were about to give with the approval and encouragement of the officers. I was led to believe, from every source of information, including the cadets themselves, that the cadets were happy and contented and had enjoyed their summer in camp most thoroughly.

(9) The uniform of the cadets might be modified in the interest of comfort.

(a) A great number of white trousers were surprisingly ragged and frayed at the heels. This must be due to the fact that the trousers, instead of being cut straight, are cut sailor fashion at the foot.

(b) The dress for summer drill, other than the parades, seems to be unsuitable. If white trousers are worn, the cadet incurs a considerable expense, both in buying the great number of trousers necessary and in keeping them clean; if the regulation clothing is worn, it is much too thick. For such drills and for fatigue, suits either of gray flannel or of gray duck of the regulation cadet-gray color, consisting of trousers and a drill jacket, would be useful. If made of duck, the suits can be washed, but would not need the incessant washing that must be given the white duck trousers.

(c) Except when full dress is required, russet leather shoes instead of black shoes would add greatly to the comfort of the cadets in summer. They would be quite as uniform in appearance as black shoes covered with the dust, which is almost inseparable from camp life.

I am, sir, very respectfully, your obedient servant.

SIGOURNEY BUTLER.

Maj. J. M. WRIGHT,

Chairman of Committee on Discipline and Instruction.

ARMAMENT AND EQUIPMENT.

Messrs. BLAIR, WASHINGTON, and MILLIKEN.

The BOARD OF VISITORS OF THE UNITED STATES MILITARY ACADEMY:

Your committee beg leave to report that they have made a personal examination of the armament and equipment of the Military Academy, and find the same in exceptionally good condition. The report of Captain Bruff, hereto attached, gives a statement in detail, showing what ordnance is now at West Point and the condition of the same. This officer makes several important suggestions, in which the committee concur and recommend their adoption, viz:

1. A continuation of the construction of models of service carriages.
2. A continuation of work in the museum.
3. The purchase of sample small arms of foreign nations.
4. The purchase of a sample rapid-fire gun each year of such leading type as may be useful in the instruction of cadets.
5. The construction of a butt or tunnel to catch the projectiles of the heavy guns.
6. The construction of platforms for the disappearing carriage and for the new siege gun and mortar carriages.

Your committee take occasion to repeat with emphasis what has been so frequently stated by previous Boards of Visitors, after observing the drill of the cavalry and light artillery using the same horses, that a very important part of the equipment of the Military Academy is the horses used by the cadets, and we are surprised to find that the recommendations of so many previous Boards of Visitors, for many years in succession, have been thus far disregarded by Congress. It is false economy to spoil a cavalry horse by putting him into the team of a caisson or piece. The cavalry service renders the horse unruly in the harness, and the work in the artillery makes the horse stiff and awkward under the saddle. Fifty good cavalry horses should be added to the equipment of this post.

Your committee also renew the recommendations hitherto made that the twenty-eight enlisted men of the cavalry detachment, while employed as artillery drivers, shall receive extra pay. An appropriation for this purpose was made in the law which expired June, 1895, but in some way was omitted from the present law making appropriations for the Military Academy for the fiscal year ending June, 1896.

To pay these men extra for this additional service rendered produces general satisfaction and is no more than simple justice.

Your committee specially recommends that appropriate legislation be passed restoring the post's military band to 40 pieces. The band consisted of this number for many years prior to 1874, when it was reduced to the present number of 24 pieces by an amendment in an appropriation bill. We think martial music is as essential to a thorough and complete drill as the uniform and equipment of the soldier, and that nothing induces more to inspire the cadet with the proper soldierly spirit. All fully equipped military bands consist of 40 pieces, and we see no good reason why the band at this most important post should not be equal, if not superior, to any other band in the service of the Government. The additional annual cost would be a comparatively insignificant sum in comparison with the good results that would inevitably follow.

FRANK P. BLAIR, *Chairman.*

JOSEPH E. WASHINGTON.

SETH L. MILLIKIN.

UNITED STATES MILITARY ACADEMY,
OFFICE OF INSTRUCTOR OF ORDNANCE AND GUNNERY,
West Point, N. Y., June 4, 1896.

SIR: In accordance with request contained in letter of this date from the Secretary of the Board of Visitors, and by direction of the Superintendent of the United States Military Academy, I have the honor to submit, for the information of your committee, the following statement with reference to the present armament and equipment of the Academy, and also certain recommendations in that connection:

The batteries.—These may be divided into seacoast, siege, and field batteries.

Seacoast batteries.—There are two of these, one called "the seacoast battery" and the other "Battery Knox." The seacoast battery, so called, is at the north end of the post looking north up the river. Battery Knox is on the eastern side of the post looking across the river.

The seacoast battery is used for the instruction of cadets in heavy gun drill and Battery Knox is unused except occasionally for saluting purposes.

Armament of seacoast battery.—The following guns and carriages are in place in this battery: One 8-inch steel breech-loading rifle complete, of the latest model, mounted on the barbette carriage provided for it, this carriage being also of the latest type; one 15-inch Rodman smoothbore, mounted on a front-pintle barbette carriage, strengthened, with hydraulic buffer; one 12-inch steel breech-loading mortar complete, of the latest model, mounted on the service mortar carriage, also of the latest type; five 8-inch converted rifles, mounted on front-pintle barbette carriages, strengthened, with hydraulic buffers. This battery has lately been remodeled, and it now contains a type or each of our service guns and carriages.

Armament of Battery Knox.—The following guns and carriages are in place in this battery: One 100-pound Parrott rifle, on old carriage; one 300-pound Parrott rifle, on old carriage; four 10-inch Rodman smoothbore guns, on old carriages; one 8-inch converted rifle, on old carriage. As this battery can not be fired owing to its location, and is never used except for saluting, no changes are needed in its armament.

The siege and mortar battery.—This battery is located at the north end of the post above the seacoast battery, looking up the river.

The following guns and carriages are in the siege battery: Six 4.5-inch cast-iron rifled siege guns, mounted on wooden carriages. These guns are obsolete and are no longer used except for drill purposes. They are to be replaced by four 5-inch steel breech-loading siege guns, and two 7-inch steel breech-loading howitzers, mounted on their carriages of modern type. Two of the four 5-inch guns with their carriages have already arrived and will soon be placed in position. The remaining guns and carriages will be delivered as soon as the carriages for them can be completed, which will probably be within the year.

The following mortars and beds are in the mortar battery: Six 10-inch smooth-bore mortars, mounted on their beds. These mortars are also obsolete, and are to be replaced by four 7-inch steel breech-loading siege mortars, mounted on their carriages of latest type, and by two 3.60-inch steel breech-loading field mortars, mounted on their carriages. The date of delivery of these mortars and their carriages is uncertain.

The field batteries.—There is one complete field battery, composed of six 3.20-inch steel breech-loading rifles complete, mounted on the latest type of field carriage, with limbers and caissons complete. This battery is used for light artillery drill.

There is also a battery of six 3.20-inch steel breech-loading field guns, mounted on the latest type of gun carriage, with limbers complete, but the caissons of this battery are of the old pattern, and belong to an old 3-inch battery. This battery is used for foot artillery drill.

In addition, there is a complete 3-inch battery, composed of six 3-inch muzzle-loading wrought-iron rifled guns, with limbers and caissons complete. This battery is not used for drill purposes, and is retained at the post mainly for saluting purposes.

Machine guns.—There are also at the post the following machine guns, which have been supplied partly by the Ordnance Department and partly by purchase from appropriations made by Congress. They are used in the practical instruction of cadets: One Gatling gun, caliber .45, model of 1875; one Gatling gun, caliber .45, model of 1883; one Gatling gun, caliber .30, model of 1892; one Gardner gun, caliber 45; one Maxim automatic gun, caliber .45; one Hotchkiss revolving cannon, caliber 1.50.

Rapid-fire guns.—There are also the following rapid-fire guns, which have been supplied by the Ordnance Department or purchased from appropriations made by Congress for the purpose. These guns are used in the practical instruction of cadets: One Hotchkiss mountain gun, caliber 1.65 inches; one Hotchkiss rapid-fire gun, 3-pounder; one Nordenfelt rapid-fire gun, 3-pounder; one Driggs-Schroeder rapid-fire gun, 6-pounder.

Additions to and changes in armament during the present year.—In the seacoast battery, one 15-inch Rodman smoothbore gun and carriage, one 13-inch smoothbore mortar and carriage, one old-pattern center-pintle barbette carriage, one 10-inch Rodman smoothbore gun and carriage, and one 200-pounder Parrott gun and carriage have been removed. New platforms have been laid for one 8-inch steel rifle, one 12-inch steel mortar, and three 8-inch converted rifles on front-pintle barbette carriages, and these guns and their carriages have been placed in position. This, in my opinion, renders the armament of the seacoast battery complete under present conditions, as the battery now contains a type of every service gun and carriage. The only exception to the above is, that the battery does not yet contain a disappearing carriage, but one of these is now ready and will be supplied by the Ordnance Department as soon as an emplacement can be provided for it.

No changes have been made in Battery Knox and none are contemplated, for the guns there can not be used.

In the siege battery no changes have as yet been made, but as previously stated, two 5-inch siege guns and carriages are ready to be mounted in this battery, and others will be put in as soon as they arrive. In the mortar battery all the old mortars are to be removed and replaced, as before explained.

During the year a Driggs-Schroeder rapid-fire gun has been received, and will be available for future instruction, and also a caliber .30 Gatling gun firing the new smokeless-powder cartridges.

The Department has now on hand eight caliber .30 rifles with a large supply of ammunition (smokeless powder). These guns have been used during the year by cadets in target practice. There are also on hand a number of Lee magazine rifles which have been used in firing.

Foreign small arms.—During the year the Department has endeavored to purchase a sample small arm adopted by each of the principal foreign powers. So far only one has been actually obtained, through the kindness of Col. W. H. Ludlow, military attaché at London, but it is hoped that others will be obtained during the year. It is important that the Academy should have a sample of each of these arms, to enable the cadets to study, practically, their features, advantages, and defects, and compare them with our own gun.

Models of guns and carriages.—During the year models have been made of each of our service, field, siege, and seacoast guns. These models were made at the Watervliet Arsenal, and are of great importance and use, as they are kept in the lecture room where daily recitations are held, and the cadets are thus enabled to become thoroughly familiar with the details of their mechanism.

Models of service carriages for the 3.20-inch gun and the 10-inch gun have also been procured. These models were made at Watertown Arsenal. The present modern carriage is very complicated, as compared with the old ones, and when it is being studied the carriages themselves are not available for explanation. Hence, a working model giving all the details is very valuable, and I would respectfully recommend that appropriations for the manufacture of these models be continued till the Academy shall possess a working model of each service carriage.

Museum.—The work of fixing up the new museum in the academic building is now in progress, an appropriation having been made by the last Congress for this purpose. New appropriations will, however, be necessary to complete the work. The Academy has in its possession many valuable flags, trophies, and models, which should be properly displayed and cared for.

The value of such a collection is great, but to be properly available the articles must be placed in cases or on stands where they are readily accessible and can be cared for.

Target for heavy guns.—With the installation of modern high-power, long-range guns, some means must be employed to retain the projectiles on firing to prevent danger. The longest range available here is now about 2,100 yards, and the projectiles are fired against the face of a rock on the adjacent mountain.

These projectiles are liable to glance on striking and endanger the neighboring towns on the railroad. For this purpose a tunnel or butt should be constructed at the end of the range which will retain them.

RECOMMENDATIONS.

I would respectfully recommend that the following subjects receive the attention of the Department:

1. Appropriation for the construction of models of service carriages.
2. Appropriation for the work in the museum.
3. The purchase of sample small arms of foreign nations.
4. The purchase of a sample rapid-fire gun each year, of such leading type as may be established by the War Department.
5. The construction of a tunnel or butt to catch the projectiles of the heavy guns.
6. The construction of a platform for the disappearing carriage and for the new seacoast gun and other carriages.

The various subjects mentioned above properly to the department of practical engineering, and I would call attention to them.

With regard to the armament, I believe that in a very short time it will be completed, as the Chief of Ordnance is anxious to furnish modern guns and carriages as fast as they can be manufactured, and he has shown this by sending here the first 12-inch steel mortar and the second 8-inch steel rifle mounted in the United States.

Very respectfully, your obedient servant,

LAWRENCE L. BRUFF,

Captain, Ordnance Department, U. S. A., Instructor of Ordnance and Gunnery.

The CHAIRMAN COMMITTEE ON ARMAMENT, ETC., BOARD OF VISITORS,
(Through headquarters United States Military Academy.)

[First indorsement.]

HEADQUARTERS UNITED STATES MILITARY ACADEMY,

West Point, N. Y., June 6, 1895.

Respectfully transmitted to Honorable Sigourney Butler, secretary Board of Visitors.

O. H. ERNST,

Colonel of Engineers, Superintendent.

[Second indorsement.]

ROOMS OF THE BOARD OF VISITORS, *June 6, 1895.*

Respectfully referred to Capt. F. P. Blair, chairman of committee on armament and equipment.

SIGOURNEY BUTLER, *Secretary.*

WAR 95—VOL I—50

BUILDINGS, GROUNDS, AND LIGHTS.

Messrs. MILLIKEN, WASHINGTON, and JANEWAY.

Your committee on buildings, grounds, and lights has the honor to report as follows:

Your committee, in company with the Superintendent, made a thorough and detailed inspection of the buildings. We found the general condition satisfactory.

In compliance with request of the committee the Superintendent submitted the following statement of what was needed, to wit:

Appropriations recommended.

- | | |
|--|-----------|
| (1) Guardhouse and gate near south boundary..... | \$10, 000 |
| (2) Reconstruction of interior of library building and making fireproof
(rough estimate)..... | 50, 000 |

NOTE.—An architect is at work preparing the plans and estimates for this alteration. The estimate may vary very materially from that here given, but will probably not exceed it.

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|---|---------|
| (3) Commissary storehouse..... | 15, 000 |
| (4) Three sets officers' quarters, at \$10,000 each..... | 30, 000 |
| (5) Clock tower, new Academy building..... | 35, 000 |
| (6) Porch for cavalry barrack..... | 4, 200 |
| (7) Sidewalk and approaches for new Academy building..... | 5, 000 |
| (8) Sidewalk from railway station..... | 3, 500 |
| (9) Moving old quarters near hospital..... | 3, 000 |
| (10) Filter house and keeper's dwelling near new reservoir. (Plans and
estimates for these are being prepared, and will be ready for the next Con-
gress.) A rough estimate is about..... | 10, 000 |

O. H. ERNST, *Colonel and Superintendent.*

All the improvements asked for in the communication of the Superintendent are essential and important and should be made at the earliest day possible, but in view of the large appropriation which would be required your committee deem it expedient to recommend the most important for immediate construction.

The filter house and keeper's dwelling should be appropriated for and constructed, so as to be ready for use on the completion of the new reservoir.

It is unnecessary to discuss the importance of pure water. A thorough investigation shows that the proposed filter is an absolute essential to pure water at the Academy.

The gate and guardhouse near the south boundary is located at the junction of the two roads leading through the grounds at their connection with the public road leading down to the river, and it is of great importance to properly protect and police the grounds of the Academy.

The library contains a large number of exceedingly valuable books, which are now stored on shelves and in cases in the old library building, where many are inaccessible, and all are exposed to loss by fire. With proper changes this building could be rendered fireproof, and would be excellently fitted for the purposes of a library, furnishing ample space for the increase in the library for many years to come. The porch for the cavalry barracks, while not a necessity, is a very desirable improvement, and would provide for the greater comfort of the enlisted men, especially during the hot weather. The sidewalk and approaches for the new Academy building are essential to properly finishing this magnificent structure, and to make it accessible during inclement weather.

We found the work on the new reservoir in a very satisfactory state of progress, and believe that when completed it will furnish an ample supply of excellent water.

There is no complaint of the gas fixtures, of the gaslights, or of the gas plant coming to the knowledge of the committee, and the gas furnished seems to be of good quality and sufficient in quantity.

SETH L. MILLIKEN,
JOSEPH E. WASHINGTON,
EDWARD G. JANEWAY.

SUPPLIES AND EXPENDITURES.

Messrs. PETER HAIRSTON, FRANK P. BLAIR, and J. M. WRIGHT.

The BOARD OF VISITORS OF THE UNITED STATES MILITARY ACADEMY:

This department embraces the laundry, the store, and mess, under the efficient management of Capt. W. F. Spurgin, Twenty-first Infantry.

Your committee first visited the laundry, which they found equipped with modern machinery for doing the work efficiently and economically, the average cost per garment being less than 2 cents.

Your committee next visited the store. Here all the supplies except food needed by the cadets are furnished them at wholesale prices. The accounts of the cadets, with all the other departments of the Academy, are audited and paid here, and the cadets can at any time see their standing with the treasurer.

Your committee next visited the mess. They found there the food of the best quality, in sufficient abundance, and served in the best manner. No complaints reached the committee from any source. They recommend that the cold-storage room be enlarged and furnished with better cooling facilities.

Your committee can not commend too highly the great improvement effected by Captain Spurgin in the management of the cadet mess. Not only has the food been vastly improved in quality and quantity, to the personal knowledge of every member of your committee, but a reduction in cost to the cadets of almost 50 per cent has been effected by him.

We have no suggestions or recommendations to offer, save as to cold storage above mentioned.

Very respectfully,

**P. HAIRSTON,
FRANK P. BLAIR,
J. M. WRIGHT.**

FISCAL AFFAIRS.

Messrs. VILAS, BUTLER and MILLIKEN.

SIR: The committee on fiscal affairs have given such attention to the subject committed to their inquiry as opportunity has afforded, by personal inspection of the methods of the financial business of the Academy and by examination into the accounts, appropriations, and expenditures.

The subject has two divisions: First, the charge upon the General Government for the maintenance of the Academy; second, the expenditures on behalf of the cadets for their maintenance, subsistence, clothing, and other requirements. They are independent, and to be separately considered.

MAINTENANCE OF ACADEMY.

The institution at West Point has been for many years what its name indicates—a military academy for the instruction of youth in the art of war. Growing, however, in part, out of the theory of its original establishment as a military post for a corps of engineers and artillery, with the accompaniment of instruction to cadets, as well as from the facts that the instructors must chiefly be officers of the Army and instruction must require the aid of military engines and enlisted men to serve them, a considerable share of the expenditures made for the support of the Academy is provided for by Congress in the general appropriation for the support of the Army, as originally were all its charges.

The act for the support of the Military Academy, which has for many years been one of the regular appropriations by the Congress, makes no provision for the pay of officers employed in the government of the Academy, instruction and discipline of cadets, and command of the Army detachments there, except for nine professors, and the additions granted certain officers because of the service required of them, nor for the pay of enlisted men, except the extra-duty pay and the pay of the band and field musicians employed at the post. That part of its appropriation which is for such extra pay of officers and enlisted men of the Army, together with that for the payment of professors and cadets, is disbursed by the Paymaster-General; while the moneys set apart by it for the more direct expenses of the Academy, and for the improvement of the public property at West Point, are disbursed by the quartermaster of the post.

It has seemed to your committee that it would be a service, as useful as any it could render upon this branch of the subject, to inquire into and exhibit the entire charge upon the Government for the maintenance of this institution by collating the various expenditures made in this way by different officers for its support, the aggregate of which is not readily patent amid the diverse appropriations and various accounts; and the result ascertained appears especially interesting in connection with the resolution of the Board in favor of extending the advantages of the Academy to a greater number of cadets, and strongly confirmatory of the wisdom of that recommendation.

With this view your committee addressed letters of inquiry to the different officers who have command of detachments of enlisted men at West Point paid by the Paymaster-General of the Army, and the replies of those officers, with their full accompanying statements, are herewith appended. This was supplemented by information furnished through the Secretary of War by the Paymaster-General, which also accompanies this report as an appendix.

The appropriation for the support of the Military Academy for the year ended with June, 1895, carried—

For the payment of the instructional force.....	\$53, 226. 70
For pay of cadets.....	167, 000. 00
For the band.....	9, 240. 00
For field musicians.....	3, 257. 08
Total.....	<u>232, 723. 78</u>

The appropriation for the Academy for the year 1895 also carried for current and ordinary expenses, regular repairs, and some improvements to grounds, the further sum of \$175,231.30; and disbursement of this belonged to the quartermaster of the post, Capt. J. B. Bellinger, whose account of the expenditure accompanies this report. The total direct appropriation for the Academy was, therefore, \$407,955.08.

Of this sum the Paymaster-General had disbursed, up to August 31, 1895.	\$225, 337. 51
Captain Bellinger had disbursed.....	<u>161, 837. 03</u>
Total.....	387, 174. 54
Besides which the Paymaster-General paid from the Army appropriation	<u>198, 754. 91</u>
Making in the aggregate.....	585, 929. 45

as the entire cost to the Government of the maintenance of the Academy, so far as expenditures have been already made of the appropriations for the year. Some additional payments will be made, as indicated in Captain Bellinger's account, but the amount will be comparatively small, and the expenditures reported show the ordinary outlay.

Analysis of these expenditures, so far as these data render it possible, discloses the following as the cost of the respective items stated below:

To officers engaged in instruction and discipline of cadets.....	\$151,034.94
Other officers and men	95,374.91
Expenses of instructional departments.....	13,752.63
Ordinary expenses and repairs.....	51,719.05
Miscellaneous and incidental expenses.....	25,897.86
Band and musicians.....	10,896.04
Public buildings and grounds.....	66,812.42
Pay of cadets.....	167,702.38
Board of Visitors	2,739.22
Total	585,929.45

The cost of the Academy and the post for the last fiscal year, in addition to the pay of the cadets, was, therefore, \$418,227.07, including the permanent improvements upon the buildings and grounds, about \$40,000. Disregarding that expenditure, the maintenance of the Academy required an outlay of over \$375,000. But there can be no cessation of expenditures for buildings and grounds. They must be continual, and it is not probable the annual appropriation for that purpose will fall below \$50,000 at any time in the future. For the current year, to end with June, 1896, the amount granted under that head is \$71,772.55. The account of instruction and discipline is not answerable for the whole outlay which the Government must annually undergo. As a military post West Point requires peculiar expenditures, not academical in any sense, by which the total is much swelled. But, with just allowance, it remains very clear to your committee that the instructional system, whether considered with reference to its power or its cost, ought to profit a greater number of pupils.

So far as their observation and inquiries extended your committee found all appropriations prudently expended, and their examination of the office and accounts of Captain Bellinger gave entire satisfaction.

THE CADETS' BUDGET.

Your committee bestowed particular attention on the methods and accounts of the expenditures made on behalf of cadets out of their funds. The system which has been wrought out after many years' experience, with improvement during the administration of the present excellent officer, who is treasurer of the Academy and quartermaster and commissary of cadets, Capt. William F. Spurgin, seems to leave nothing wanting to its perfection, and the fidelity of its execution by him and his assistants is admirable. Some account of this system will not be misplaced here.

All receipts of money come either directly from the cadets, through their pay or deposit of moneys, or from funds resulting from accumulated savings from moneys of cadets in the past. The expenditures

are all made by the treasurer. Cadets are not permitted to expend money themselves. Their subsistence, clothing, and all other necessities to their ordinary life at the Academy are provided by the treasurer out of their funds. If any cadet desires to make any special personal expenditure he must first obtain leave from the Superintendent, upon which he contracts the obligation, which the treasurer pays for him and charges to his account. With each cadet a separate account is kept in which he is credited every two months with his pay received from the Government, \$45 per month, and with whatever sums may be deposited by his parents or friends, under leave of the Superintendent, for his benefit. He is debited with all disbursements made for him, and upon the termination of his relations with the Academy, by graduation, resignation, or otherwise, his account is finally settled, and the balance remaining to his credit paid. His subsistence is received in the cadets' common mess, and his proportion goes to his account with each settlement, once in two months.

The charge upon cadets for subsistence has been materially reduced during some years past, while its sufficiency and character have been much improved—a good result allowed on all hands to the efficiency of Captain Spurgin. In like manner, both improvement and decrease of cost have been gained to the cadets in the matter of clothing. All the articles which enter into the clothing and equipment of the cadet are provided under the direction of this officer as quartermaster and commissary of cadets, and, so far as your committee could discern, with advantage in every way to the young men concerned. The clothing is manufactured under his direction, the material prudently purchased, and the labor economically applied. The real cost of each article is accurately ascertained, embracing a just apportionment to cover the services of the workmen and clerks which constitute an element of production.

So, also, the expense of maintaining the laundry is apportioned with close accuracy to each article laundered, the cost being thus a moderate one. The system of accounts is such as to return to the cadets faithfully every dollar of their money employed, with whatever gain or profit, if any should happen to result, although the accuracy of the accounts leaves this but a small sum.

Three funds are distinguished and a separate account carried with each. The cadets' subsistence fund is charged with the actual expenditures made for provisions, fuel, and labor; the cadet quartermaster's fund with expenditures for materials and labor going into articles provided on that account; and the cadets' laundry fund with the actual cost of maintaining and conducting the laundry. At each settlement, occurring once in two months, the net balance to the debit of the subsistence fund is apportioned among the several cadets enjoying the benefit, and the share of each charged up to his personal account. All the salvages of the kitchen, together with receipts for such provisions

as may be sold to officers for their mess, are carefully secured to the credit of this fund. The statement appended exhibits the particulars.

Another fund, called the cadets' equipment fund, is also maintained, with a view of securing to the cadet upon graduation the means of providing himself with his equipment as an officer. For this each cadet is charged with \$4 per month, and the amount is, on graduation, expended for the purpose named. Should his connection with the Academy be severed before graduation, the entire sum is returned to him.

The average balance of this fund, to the amount of \$20,000, is invested in the bonds of the United States (of which \$10,000 are in 4 percents and \$10,000 in 2 percents extended), in order to gain what may be by way of interest, and the \$600 resulting from this investment goes to the credit of the subsistence fund and reduces its cost to the cadets. In past years several of the funds of cadets were invested in some buildings, one of which was originally used as a sutler's store and others for employees. These buildings now yield a moderate rental—about \$22.50 per month—which is applied to the credit of the cadet quartermaster's fund.

Accompanying this report is Major Spurgin's statement of the receipts on these several accounts during the year ended with April, 1895.

It requires but short contemplation to recognize the excellence to cadets of such a system, wisely and faithfully conducted, nor to discern that, however excellent the system, the value of it will still be largely dependent on the constant attention to every detail by the officer in charge, with unfailing good sense as well as rigid fidelity. The cadets now seem to enjoy every circumstance of advantage which such a combination can give, excellence in what is provided for them, and at the least possible expense; a fact which it is as pleasing to report as it is creditable to the officer.

WM. F. VILAS.
SIGOURNEY BUTLER.
SETH L. MILLIKEN.

Hon. JOSEPH WHEELER,
Chairman Board of Visitors.

HEADQUARTERS UNITED STATES MILITARY ACADEMY,
OFFICE TREASURER, QUARTERMASTER, AND COMMISSARY CADETS,
West Point, N. Y., June 11, 1895.

SIR: In compliance with your verbal request of this date I have the honor to transmit herewith the following, exhibiting the disbursements and accruments to the

following accounts kept in the office of the treasurer of the United States Military Academy, for the year ended April 30, 1895, viz:

No.		Disbursements.	Accruments.
1	Athletic association	\$628.02	\$761.75
2	Cadet hospital.....	2,721.43	2,721.43
3	Cadet laundry.....	9,820.05	9,993.34
4	Cadet quartermaster's department.....	75,310.76	74,148.64
5	Cadet subsistence department.....	57,380.41	56,975.73
6	Confectionery.....	133.50	133.50
7	Dancing (instruction).....	515.00	515.00
8	Equipment fund.....	13,350.00	13,968.00
9	Hops and germans.....	1,589.40	1,659.98
10	Young Men's Christian Association.....	258.99	294.80

The difference between disbursements and receipts in Nos. 4 and 5 is accounted for by increase of "stock on hand" in those departments not yet consumed or sold. I have the honor to also transmit herewith a tabulated statement of accruments to the cadet subsistence department for the year ended April 30, 1895, from the sources indicated in the headings of the said statement.

Very respectfully, your obedient servant,

WM. F. SPURGIN.

Captain Twenty-first Infantry, Treasurer United States Military Academy.

Hon. WM. F. VILAS,

Chairman Committee of Fiscal Affairs, Board of Visitors U. S. M. A., 1895.

(Through headquarters United States Military Academy.)

(First indorsement.)

HEADQUARTERS UNITED STATES MILITARY ACADEMY,

West Point, N. Y., June 12, 1895.

Respectfully transmitted to Hon. W. F. Vilas, chairman committee on fiscal affairs, Board of Visitors.

O. H. ERNST,

Colonel of Engineers, Superintendent.

Accruments from various sources to credit of cadet subsistence department, from May, 1894, to April, 1895, inclusive.

Months.	* Sales to officers.	Scrap fat.	Grease.	Bread and scraps.	Rent.	Barrels.	Calf skins.	Inter-est on bonds.	Total.
May and June, 1894....	\$431.24	\$62.02	\$30.43	\$12.31	\$65.00	.....	.....	\$50.00	\$651.00
July and August, 1894..	438.34	23.70	.....	14.27	65.00	.....	.....	100.00	641.31
September and October, 1894	676.59	13.20	34.53	20.95	45.00	\$36.96	.....	150.00	977.23
November and Decem-ber, 1894.....	632.05	14.90	35.88	18.07	25.00	.....	.....	150.00	875.90
January and February, 1895	494.38	28.75	.....	22.66	25.00	.....	.....	100.00	670.79
March and April, 1895..	500.44	20.68	50.18	24.62	25.00	.....	\$8.72	50.00	679.64
Total	3,173.04	163.25	151.02	112.88	250.00	36.96	8.72	600.00	4,495.67

* Sales to officers of dried meats, bread, eggs, potatoes, and butter.

The above is a correct statement of the accruments from various sources to the credit of the cadet subsistence department for one year—May, 1894, to April, 1895, inclusive.

W. F. SPURGIN,

*Captain, Twenty-first Infantry, Treasurer Military Academy,
Quartermaster and Commissary of Cadets.*

WEST POINT, N. Y., June 11, 1895.

WAR DEPARTMENT,
Washington, D. C., September 18, 1895.

SIR: In compliance with the request contained in your letter of the 6th instant, I have the honor to transmit herewith a list of officers who served at the West Point Military Academy during the year 1895, a statement showing the number of enlisted men on duty there during that year, and the amount paid to such officers and men from the general appropriation, and the appropriations for the support of the Academy during the fiscal year.

Very respectfully,

JOHN TWEEDALE,
Chief Clerk.

(For the Secretary of War in his absence.)

HON. WILLIAM F. VILAS,
United States Senate.

Pay of officers on duty at the United States Military Academy during the fiscal year ended June 30, 1895.

[Reply to query No. 1.]

No.	Name and rank.	Military Academy pay.	Army pay.	Total.
1	Col. O. H. Ernst, engineers.....	\$275. 00	\$1, 125. 00	\$4, 500. 00
2	Lieut. Col. S. M. Mills, captain, Fifth Artillery.....	1, 480. 00	2, 520. 00	4, 000. 00
3	First Lieut. J. M. Carson, jr., Fifth Cavalry.....	240. 00	1, 920. 00	2, 160. 00
4	Capt. W. H. Miller, A. Q. M.; retired Oct. 1, 1894.....		700. 00	700. 00
5	Capt. W. F. Spurgin, Twenty-first Infantry.....	700. 00	2, 520. 00	3, 220. 00
6	First Lieut. Wm. Weigel, Twenty-first Infantry.....		1, 920. 00	1, 920. 00
7	Maj. G. H. Torney, surgeon; joined July 17, 1894.....		3, 344. 45	3, 344. 45
8	Capt. C. F. Mason, assistant surgeon; joined July 16, 1894.....		2, 103. 33	2, 103. 33
9	First Lieut. F. P. Reynolds, assistant surgeon; retired May 2, 1895.....		1, 342. 22	1, 342. 22
10	Prof. P. S. Michie.....	4, 500. 00		4, 500. 00
11	Prof. C. H. Larned.....	4, 500. 00		4, 500. 00
12	Prof. E. W. Bass.....	4, 500. 00		4, 500. 00
13	Prof. S. E. Tillman.....	4, 500. 00		4, 500. 00
14	Prof. W. M. Postlethwaite.....	4, 200. 00		4, 200. 00
15	Prof. James Mercur.....	4, 376. 39		4, 376. 39
16	Prof. E. E. Wood.....	4, 000. 00		4, 000. 00
17	Associate Prof. W. P. Edgerton.....	2, 800. 00		2, 800. 00
18	Maj. J. W. Clous, judge-advocate.....		4, 000. 00	4, 000. 00
19	Capt. J. L. Lusk, engineers.....	691. 67	2, 767. 67	3, 459. 34
20	Capt. L. L. Bruff, Ordnance Department.....	700. 00	2, 800. 00	3, 500. 00
21	Capt. L. A. Craig, Sixth Cavalry; retired Aug. 13, 1894.....		327. 66	327. 66
22	First Lieut. A. B. Dyer, Fourth Artillery.....	700. 00	2, 100. 00	2, 800. 00
23	First Lieut. J. P. Wisser, First Artillery; retired Aug. 13, 1894.....	83. 61	250. 83	334. 44
24	First Lieut. S. W. Dunning, Sixteenth Infantry.....	650. 00	1, 950. 00	2, 600. 00
25	First Lieut. S. E. Allen, Fifth Artillery.....		1, 950. 00	1, 950. 00
26	First Lieut. H. C. Newcomer, engineers.....	440. 00	1, 920. 00	2, 360. 00
27	First Lieut. M. M. Patrick, engineers.....		1, 920. 00	1, 920. 00
28	First Lieut. S. D. Freeman, Tenth Cavalry.....		2, 080. 00	2, 080. 00
29	First Lieut. E. D. Smith, Nineteenth Infantry.....	108. 35	2, 042. 84	2, 151. 19
30	First Lieut. W. P. Richardson, Eighth Infantry.....	600. 00	1, 800. 00	2, 400. 00
31	First Lieut. T. H. Rees, engineers.....		1, 920. 00	1, 920. 00
32	First Lieut. W. H. Allaire, Twenty-third Infantry.....	650. 00	1, 950. 00	2, 600. 00
33	First Lieut. R. L. Hirst, Eleventh Infantry.....		1, 800. 00	1, 800. 00
34	First Lieut. G. H. Cameron, Fourth Cavalry.....	520. 00	2, 080. 00	2, 600. 00
35	First Lieut. W. A. Holbrook, Seventh Cavalry.....	480. 00	1, 920. 00	2, 400. 00
36	First Lieut. H. Thayer, Third Cavalry.....		1, 920. 00	1, 920. 00
37	First Lieut. L. G. Berry, Fourth Artillery.....		1, 800. 00	1, 800. 00
38	First Lieut. T. B. Mott, First Artillery; retired Aug. 31, 1894.....	100. 00	300. 00	400. 00
39	First Lieut. R. P. Davis, Second Artillery.....	530. 00	1, 800. 00	2, 330. 00
40	First Lieut. E. Russell, Fifth Artillery.....		1, 800. 00	1, 800. 00
41	First Lieut. B. K. West, Sixth Cavalry.....	437. 66	2, 180. 00	2, 617. 66
42	First Lieut. D. H. Boughton, Third Cavalry; retired Aug. 28, 1894.....	83. 78	335. 11	418. 89
43	First Lieut. F. S. Harlow, First Artillery; retired Aug. 13, 1894.....	77. 64	232. 91	310. 55
44	First Lieut. J. E. Kuhn, Engineers; retired Aug. 1, 1894.....	40. 00	160. 00	200. 00
45	First Lieut. G. F. Barney, Second Artillery.....	379. 17	1, 950. 00	2, 329. 17
46	First Lieut. E. B. Babbitt, Ordnance Department.....		1, 920. 00	1, 920. 00
47	First Lieut. J. C. W. Brooks, Fourth Artillery; retired Aug. 28, 1894.....		290. 00	290. 00

Pay of officers on duty at the United States Military Academy during the fiscal year ended June 30, 1895—Continued.

No.	Name and rank.	Military Academy pay.	Army pay.	Total
48	First Lieut. J. A. Cole, Sixth Cavalry	\$200.00	\$1,920.00	\$2,120.00
49	First Lieut. C. DeW. Willcox, Second Artillery	600.00	1,800.00	2,400.00
50	First Lieut. A. F. Curtis, Second Artillery	600.00	1,800.00	2,400.00
51	First Lieut. A. H. Brown, Fourth Infantry		1,800.00	1,800.00
52	First Lieut. W. S. Biddle, Fourteenth Infantry		1,800.00	1,800.00
53	First Lieut. D. B. Devore, Twenty-third Infantry		1,800.00	1,800.00
54	First Lieut. J. D. Barrette, Third Artillery		1,800.00	1,800.00
55	First Lieut. F. McIntyre, Nineteenth Infantry; retired Aug. 13, 1894		215.00	215.00
56	First Lieut. H. Freeland, Third Infantry; retired Aug. 13, 1894		215.00	215.00
57	First Lieut. C. Stewart, Fourth Cavalry; retired Sept. 1, 1894		320.00	320.00
58	First Lieut. B. A. Poore, Sixth Infantry		1,800.00	1,800.00
59	First Lieut. P. E. Traub, First Cavalry		1,920.00	1,920.00
60	Second Lieut. M. D. Cronin, Twentieth Infantry		1,795.33	1,795.33
61	Second Lieut. C. D. Palmer, Fourth Artillery		1,777.00	1,777.00
62	Second Lieut. J. S. Winn, Second Cavalry		1,805.33	1,805.33
63	Second Lieut. M. C. Butler, jr., Fifth Cavalry	231.67	1,800.00	2,031.67
64	Second Lieut. C. D. Bromwell, Engineers		1,650.00	1,650.00
65	Maj. P. F. Harvey, surgeon; retired July 17, 1894		456.94	456.94
66	H. J. Koehler, master of sword	1,500.00		1,500.00
67	H. H. Clappi, teacher of music	1,080.00		1,080.00
68	Capt. James Parker, Fourth Cavalry; joined Aug. 13, 1894		2,473.33	2,473.33
69	Capt. W. B. Gordon, Ordnance Department; joined Aug. 20, 1894		2,411.11	2,411.11
70	Capt. George Montgomery, Ordnance Department; joined Aug. 20, 1894		1,515.59	1,515.59
71	Second Lieut. C. A. F. Flagler, Engineers; joined Aug. 20, 1894		1,514.57	1,514.57
72	Second Lieut. C. B. Hagadorn, Twenty-third Infantry; joined Aug. 20, 1894		1,326.12	1,326.12
73	Second Lieut. W. A. Bethel, Fourth Artillery; joined Aug. 20, 1894		1,332.73	1,332.73
74	Second Lieut. W. O. Johnson, Nineteenth Infantry; joined Aug. 20, 1894		1,326.08	1,326.08
75	Second Lieut. H. D. Todd, jr., Third Artillery; joined Aug. 20, 1894		1,326.08	1,326.08
76	Capt. J. B. Bellinger, A. Q. M.; joined Sept. 17, 1894 *		1,893.33	1,893.33
77	Asst. Surg. Charles Willcox; joined May 2, 1895 *		361.55	361.55
78	Capt. W. E. Wilder, Fifth Cavalry; joined May 15, 1895		407.77	407.77
Total		47,654.94	113,124.88	160,779.82

* It is understood that all of the above-named officers are engaged in instruction or government of cadets, with the exception of those marked with a star.

T. H. STANTON,
Paymaster-General. U. S. A.

SEPTEMBER 13, 1895.

Amount paid to enlisted men on duty at United States Military Academy for fiscal year ended June 30, 1895, including amounts paid to discharged men for pay, travel pay, retained pay, and clothing; also estimated amount to pay rolls for June, 1895, Army appropriation for 1895.

[Reply to query No. 2.]

	Military Academy pay.	Pay of Army.	Total.
Military Academy band	\$8,147.92		\$8,147.92
Musicians and field music	1,832.27		1,832.27
Company E. Engineers Battalion		\$25,319.35	25,319.35
Ordnance detachment		3,686.40	3,686.40
Cavalry detachment		12,876.43	12,876.43
Army service men, Quartermaster's Department		28,860.60	28,860.60
Hospital corps		7,419.30	7,419.30
Noncommissioned staff		1,908.73	1,908.73
Total	9,980.19	79,062.81	89,043.00

UNITED STATES MILITARY ACADEMY.

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[Reply to query No. 3.]

Amount paid to general service clerks and messengers: Pay for July and six days in August, 1894.....	\$589.23
Amount paid to civilian clerks and messengers for balance of year: (paid from Army appropriation).....	5,972.00
	<u>6,561.23</u>

[Reply to query No. 4.]

Amount disbursed to August 31, 1895, by the Pay Department out of the appropriation for the support of the Military Academy for the year ended June 30, 1895.....	\$223,337.51
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T. H. STANTON,
Paymaster-General, U. S. A.

SEPTEMBER 13, 1895.

UNITED STATES MILITARY ACADEMY,
QUARTERMASTER'S OFFICE,
West Point, N. Y., August 7, 1895.

SIR: Agreeably to the request of Senator William F. Vilas, chairman committee on fiscal affairs, Board of Visitors, 1895, I respectfully submit herewith, for the information of that committee, statement of expenditures from appropriations for the support of the United States Military Academy for the fiscal year 1895, and a statement of the number of men in the detachment of army service men, showing their respective ranks, rates of pay, and allowances.

Very respectfully,

J. B. BELLINGER,

Captain and Assistant Quartermaster, United States Army.

The ADJUTANT, UNITED STATES MILITARY ACADEMY,

West Point, N. Y.

[Indorsement.]

HEADQUARTERS UNITED STATES MILITARY ACADEMY,
West Point, N. Y., August 9, 1895.

Respectfully forwarded to Hon. William F. Vilas, chairman committee on fiscal affairs, Board of Visitors, 1895.

O. H. ERNST,

Colonel of Engineers, Superintendent.

Statement of expenditures from appropriations for the support of the United States Military Academy, by Capt. J. B. Bellinger, assistant quartermaster, United States Army, for the fiscal year ended June 30, 1895.

Purpose.	Appropriation.	Expended.
<i>Current and ordinary expenses.</i>		
Repairs and improvements.....	\$18,000.00	\$15,908.48
Fuel and apparatus.....	20,000.00	19,069.91
Gas pipes, fixtures, lamp-posts, etc.....	1,500.00	1,408.23
Fuel for cadets' mess hall, shops, etc.....	3,000.00	2,000.00
Postage and telegrams.....	250.00	190.96
Stationery.....	800.00	797.90
Transportation of materials, etc.....	1,750.00	1,103.04
Printing.....	1,000.00	894.92
Clerk to the disbursing officer and quartermaster.....	1,350.00	1,350.00
Clerk to adjutant in charge of cadet records.....	1,600.00	1,500.00
Clerk to adjutant.....	1,000.00	1,000.00
Clerk to treasurer.....	1,500.00	1,500.00
Clerk to quartermaster.....	1,000.00	1,000.00

Statement of expenditures from appropriations for the support of the United States Military Academy, etc.—Continued.

Purpose.	Appropriation.	Expended.
Department of tactics:		
Tan bark or other proper cover for riding hall.....	\$600.00	\$600.00
Repairing camp stools and camp furniture.....	100.00	99.85
Repairs and improvements of dressing rooms.....	220.00	219.83
Furniture for offices, etc.....	100.00	99.15
Stationery for use of instructor, etc.....	150.00	111.81
Books and maps, etc.....	75.00	31.24
Plumes for cadet officers, etc.....	75.00	72.25
Silk and worsted sashes, etc.....	220.00	207.00
Foils, masks, belts, etc.....	250.00	249.34
Soap used in scrubbing cadet barracks.....	50.00	49.97
Extra pay of 28 enlisted men of the cavalry detachment employed on additional duty with the instruction battery of field artillery, etc.....	560.00	560.00
	2,400.00	2,340.43
Department of civil and military engineering:		
Models, maps, etc.....	1,000.00	989.19
Extra pay of enlisted man employed as draftsman.....	256.00	256.00
	1,256.00	1,245.19
Department of natural and experimental philosophy:		
Additions to apparatus to illustrate the principles of mechanics, acoustics, optics, and astronomy.....	800.00	800.00
Books of reference, scientific periodicals, etc.....	400.00	324.91
Repairs to observatory building and clocks.....	300.00	290.27
Pay of mechanic assistant.....	1,000.00	1,000.00
	2,500.00	2,415.18
Department of mathematics:		
Repairs and materials for preservation of models and instruments.....	25.00	.....
Text-books, books of reference, etc.....	125.00	120.71
One office desk and chair.....	75.00	63.50
Bookcases.....	75.00	75.00
Table of logarithms.....	25.00	25.00
Contingencies.....	25.00	25.00
	350.00	309.21
Department of history, etc.:		
Text-books, books of reference, etc.....	150.00	149.38
Department of chemistry, etc.:		
Chemicals, chemical apparatus, etc.....	500.00	500.00
Rough specimens, fossils, etc.....	500.00	500.00
Repairs and additions to electric, magnetic, pneumatic, thermic, and optical apparatus.....	500.00	500.00
Pay of mechanic employed in chemical and geological section rooms, etc.....	1,000.00	1,000.00
Models, maps, and diagrams, etc.....	180.00	134.97
Contingencies.....	100.00	100.00
	2,780.00	2,734.97
Department of drawing:		
Drawing material for the use of instructors, etc.....	250.00	247.83
Repairs to models, desks, etc.....	75.00	74.39
Cleaning and renewal of plaster models, etc.....	50.00	50.00
Models in flat and relief for second and third classes.....	100.00	100.00
Books and periodicals.....	100.00	94.24
Binding periodicals, etc.....	30.00	28.90
Photographic material and apparatus.....	150.00	149.77
Ten prismatic compasses for reconnaissance work.....	150.00	150.00
Eighty reconnaissance boards.....	280.00	280.00
One case of drawing instruments.....	75.00	75.00
Twenty new drawing boards.....	50.00	50.00
Thirty new steel rulers.....	90.00	90.00
Twenty new steel triangles.....	50.00	50.00
	1,450.00	1,440.23
Department of modern languages:		
Stationery, text-books, and books of reference for the use of instructors, etc.....	445.50	434.06
Department of law:		
Stationery, text-books, books of reference, and books for use of instructors, etc.....	250.00	239.87
One typewriter and typewriting supplies.....	100.00	100.00
	350.00	339.87

Statement of expenditures from appropriations for the support of the United States Military Academy, etc.—Continued.

Purpose.	Appropriation.	Expended.
Department of practical military engineering: Purchase and repair of instruments, transportation, purchase of tools, implements, and materials, and for extra-duty pay of engineer, soldiers, etc	\$1,200.00	\$1,199.86
Department of ordnance and gunnery: Purchase and repair of instruments, models, and apparatus, and purchase of necessary materials, etc	450.00	450.00
Extra pay of 1 ordnance soldier as draftsman and lithographic printer ...	143.50	141.25
Extra pay of 1 ordnance soldier as machinist	143.50	141.25
Extra pay of 1 ordnance soldier as clerk	143.50	137.25
Manufacture or purchase of models of the new steel guns for field, siege, and seacoast services for cadet instruction	* 1,500.00	.....
Manufacture or purchase of models of the new steel carriages for field, siege, and seacoast services for cadet instruction	* 2,000.00	.....
Stationary for office of the treasurer, United States Military Academy	4,380.50	869.75
Extra pay of 2 enlisted men employed as clerks in the offices of the adjutant and commandant of cadets, respectively	50.00	49.67
Extra pay of 4 enlisted men as printers	284.25	279.75
Extra pay of 1 enlisted man as watchman	626.00	596.00
Extra pay of 1 enlisted man as trumpeter	159.60	159.59
Extra pay of 1 enlisted man employed in the philosophical department	127.75	124.60
Extra pay of 1 enlisted man employed in the chemical department	156.50	156.00
Extra pay of 2 enlisted men (cavalrymen) when performing special skilled mechanical labor	156.50	140.50
Extra pay of 1 enlisted man employed as saddler	313.00	294.50
Extra pay of 1 enlisted man employed in the department of drawing	156.50	153.00
Expenses of the Board of Visitors, including mileage	156.50	156.50
Total current and ordinary expenses	3,000.00	2,739.22
<i>Miscellaneous items and incidental expenses.</i>	73,098.60	68,210.90
Gas coal, oil, candles, etc		
Water pipe, plumbing, and repairs	5,000.00	5,000.00
Cleaning public buildings	1,500.00	1,499.73
Brooms, brushes, pails, tubs, soap, and cloths	1,000.00	999.18
Chalk, crayons, sponges, slate, rubbers, etc	200.00	200.00
Compensation of chapel organist	300.00	299.48
Compensation of librarian	200.00	196.67
Pay of engineer of heating and ventilating apparatus for the academic building, etc	120.00	120.00
Pay of assistant engineer of same	1,500.00	1,500.00
Pay of 8 firemen	1,000.00	1,000.00
Pay of librarian's assistant	4,800.00	4,799.79
Pay of landscape gardener	1,000.00	1,000.00
Pay of superintendent of gas works	500.00	336.00
Pay of 1 civilian plumber	1,500.00	1,500.00
Pay of 1 scavenger	900.00	900.00
Increase and expense of library	720.00	720.00
Repairing books and for furniture	2,000.00	2,000.00
Furniture for cadet hospital	200.00	200.00
Contingencies for Superintendent of the Academy	100.00	100.00
Renewing furniture in section rooms, etc	1,000.00	1,000.00
Repairs, upholstering, and carpeting the Academy chapel	500.00	500.00
Contingent funds to be expended under the direction of the academic board, etc	1,500.00	1,500.00
Purchase of instruments for band	1,000.00	527.01
Purchase of music for band	600.00	596.63
Purchase of springs, pads, strings, and other articles for band instruments ..	250.00	180.89
Total miscellaneous items and incidental expenses	150.00	138.33
<i>Buildings and grounds.</i>	27,540.00	26,813.71
Repairing roads and paths, etc		
Continuing construction of breast-high wall in dangerous places	500.00	497.21
Waterworks, etc	500.00	499.65
Continuing construction of one new reservoir	500.00	499.87
Heating and supplying river water for swimming tank in new gymnasium ..	25,000.00	24,146.61
Broken stone and gravel for roads	6,000.00	1,301.04
Maintaining and improving the grounds of the post cemetery	1,500.00	1,499.12
Repairing cooking utensils, etc., in the cadet subsistence department	1,000.00	999.97
Repairs of chairs, tables, etc., in cadet subsistence department	326.00	326.00
	50.00	50.00

* Guns and carriages manufactured by Ordnance Department United States Army. Money to be transferred to that department in payment therefor.

Statement of expenditures from appropriations for the support of the United States Military Academy, etc.—Continued.

Purpose.	Appropriations.	Expended.
Painting, kalsomining, whitewashing, etc., in cadet mess building.....	150.00	149.98
Reflooring cadet mess hall.....	4,000.00	3,873.00
General repairs to cadet laundry, etc.....	300.00	300.00
Painting, and for general incidental repairs and improvements to cadet quartermaster's department building, etc.....	300.00	298.16
Completing the modernization and improvement of the plumbing and sewerage of the post.....	5,000.00	4,472.35
Furnishing and erecting in the natatorium of the gymnasium, in complete working order, 6 slate-lined compartments with 6 combination shower, spray, and needle baths, etc.....	850.00	734.26
Asphalt road and walk in front of and around the new gymnasium.....	2,000.00	1,998.50
Repairs, new machines, and fixtures for gymnasium.....	300.00	.14
New balls and pins, repairs to bowling alley.....	150.00	3.07
Completing the plumbing in the new sinks and bathrooms for cadets, etc....	1,200.00	1,092.78
General repairs to cadet barracks, etc.....	2,840.00	2,838.22
Repairs and improvements, etc., needed at the cadet hospital.....	2,788.70	2,785.34
Improvements, additions, and repairs required at the soldiers' hospital, etc.	1,262.00	1,060.93
Outbuildings at the soldiers' hospital, with stalls for 4 cows.....	200.00	200.00
Repairs and improvements to barracks of the detachment of army-service men, Quartermaster's Department, etc.....	4,000.00	73.75
Improving the surface drainage of married enlisted men's quarters in Logtown.....	500.00	.....
Painting the exterior of five double-frame houses in Rugertown ...	1,000.00	999.83
Repairs to ordnance laboratory, etc.: New spouting on all buildings.....	300.00	299.47
Water-closet in laboratory yard.....	175.00	175.00
Covered way from cavalry stable to riding hall.....	400.00	399.38
Necessary paint, including cost of labor, for exterior of cavalry stable.....	480.00	422.40
New mangers and general repairs to interior of cavalry stable.....	1,460.00	1,459.89
Building a breast-high masonry wall on east side of road from north gate to entrance of post cemetery.....	1,000.00	.....
New sewer from Rugertown to connect with new sewer from new soldiers' hospital to river.....	2,800.00	2,466.31
Removing piling of the old south wharf.....	500.00	269.00
Continuing repairs to road from south gate to the southern boundary line of reservation, etc.....	3,000.00	2,995.72
Improving and extending the present electric fire-alarm system of the post..	700.00	684.35
Repairing fuel house belonging to the barracks of Company E, Battalion of Engineers.....	75.00	73.90
Reflooring and interior painting of barracks of Company E, Battalion of Engineers.....	1,000.00	999.78
Necessary repairs to engineer bathhouses.....	100.00	99.57
Necessary repairs to engineer equipment shed.....	200.00	199.02
Placing gas pipes and gas fixtures throughout the barracks of Company E, Battalion of Engineers.....	300.00	299.80
One steam road roller.....	4,000.00	3,275.00
Completing one platform for new 8-inch rifle, one platform for new 12-inch breech-loading mortar, and three front-plinthe platforms in the seacoast battery.....	1,966.00	1,964.05
Total buildings and grounds.....	80,672.70	66,812.42

EXPLANATORY NOTE.—The column "Expended" shows the amount of orders given for supplies or services which have been charged against the several appropriations, rather than the actual amount disbursed, up to June 30, there being a large number of bills outstanding and unpaid on that date which should be included to properly show the expense for the year.

The balances pertaining to the several appropriations under the heading "Buildings and grounds" and to the appropriation "For expenses of the Board of Visitors," etc., under the heading "Miscellaneous items and incidental expenses," do not lapse upon the close of the fiscal year—June 30. They will be expended in payment of accounts properly chargeable to each. All other balances will be covered into the Treasury after outstanding accounts against them are paid.

J. B. BELLINGER.
Captain and Assistant Quartermaster, United States Army.

WEST POINT, N. Y., August 1, 1895.

[Then follow the muster and pay roll of the United States Military Academy detachment of army service men of the Quartermaster's Department, commanded by Capt. J. B. Bellinger, assistant quartermaster, United States Army. This muster and pay roll is in detail, and shows the annual expenditure for the detachment, which consists of 1 first sergeant, 6 sergeants, 8 corporals, and 99 privates, with 1 sergeant and 1 private additional retired. For this detachment the average yearly allowance was \$3,455.49; subsistence, \$4,552.73; fuel, \$575.69; extra-duty pay, \$11,826.15; pay, \$21,547.23; the total muster and pay roll footing up \$41,957.29.—S. B.]

HEADQUARTERS UNITED STATES MILITARY ACADEMY,

West Point, N. Y., July 26, 1895.

SIR: I have the honor to acknowledge the receipt of your letter of the 22d inst., addressed to Lieutenant Carson, adjutant Military Academy, who is absent on leave, asking for the number, rank, and rates of pay of the enlisted men of the United States Army, in the service during the fiscal year ended June 30, 1895, and under his command, and also if there are any other enlisted men of the Army or employees at the Military Academy who are not paid out of the regular annual appropriation for the support of the Academy. In reply I have the honor to say that the United States Military Academy band, consisting of 1 teacher of music, who is a civilian, and 24 musicians who are enlisted, and the United States Military Academy detachment of field musicians consisting of 1 sergeant and 14 field musicians, all enlisted, are under the command of the adjutant of the Academy and are provided for in the United States Military Academy appropriation bill, their pay being as follows: 1 teacher of music, \$1,080 per annum; 6 musicians, first class, \$34 per month each; 6 musicians, second class, \$20 per month each; and 12 musicians, third class, \$17 per month each; 1 sergeant, detachment of field musicians, \$18 per month, and 14 field musicians, \$13 per month each.

In the case of enlisted men they receive increase of pay for continuous service provided for by law.

Besides the band and detachment of field musicians and the civilians provided for in the United States Military Academy appropriation bill, there are at these headquarters 5 civilian clerks and 1 messenger (formerly known as general-service clerks and messengers when they were enlisted), who are provided for in the army appropriation bill. Of these, 2 clerks receive \$1,100 per annum each, 3 clerks receive \$1,000 per annum each, and the messenger receives \$720 per annum.

There are three members of the post noncommissioned staff, United States Army, commanded by the adjutant Military Academy, on duty at the United States Military Academy, viz. 1 post quartermaster-sergeant, under the orders of the post quartermaster and quartermaster, Military Academy; 1 commissary sergeant under the orders of the post commissary of subsistence, and 1 commissary sergeant under the orders of the quartermaster and commissary of cadets. They are enlisted men, and each receives \$34 per month, with increase of pay for length of service.

Those enumerated above with the detachment of Hospital Corps (commanded by Major Torney); Company E, battalion of Engineers (commanded by Captain Lusk); detachment of cavalry (commanded by Captain Parker); detachment of ordnance (commanded by Captain Bruff); detachment of army-service men (commanded by Captain Bellinger), and civilian employees in the various departments of the Academy are provided for either in the Army bill or in the Military Academy bill.

There are a number of civilians employed in policing and cleaning cadet barracks, sinks, baths, etc., who are paid by assessments upon cadets; and clerks, tailor cutter, tailors, shoemakers, laundrymen, laundresses, and laborers employed in the cadet quartermaster's department who are paid either from the advance upon the cost on the articles sold in that department to cadets or from fixed charges for tailor, shoemaker, and laundry work for cadets.

The charge to cadets for subsistence includes the expense of hire of cooks, waiters, laborers, etc.

Every year during encampment cadets receive instruction in dancing, for which purpose an instructor is appointed and also necessary music furnished. This expense is paid by assessment upon the cadets receiving instruction.

The dentist for cadets is paid by individual cadets for work actually performed according to established schedule.

Very respectfully, your obedient servant,

W. E. WILDER,
Captain, Fourth Cavalry, Acting Adjutant.

Hon. WM. F. VILAS,

Chairman Committee on Fiscal Affairs,

Board of Visitors, 1895, Madison, Wis.

(Through the Superintendent United States Military Academy.)

P. S.—I inclose letter from the acting treasurer Military Academy containing tabulated statement of the civilian employees paid by cadets.

[First indorsement.]

HEADQUARTERS UNITED STATES MILITARY ACADEMY,

West Point, N. Y., July 31, 1895.

Respectfully forwarded to Hon. Wm. F. Vilas, Madison, Wis.

O. H. ERNST,
Colonel of Engineers, Superintendent.

WEST POINT, N. Y., *August 6, 1895.*

Hon. WILLIAM F. VILAS,

Chairman Committee on Fiscal Affairs, Board of Visitors, Madison, Wis.

(Through headquarters United States Military Academy.)

SIR: I have the honor to inclose herewith a statement showing information called for in your letter of July 22, 1895.

Very respectfully,

JAS. L. LUSK,
Captain, Corps of Engineers,
Commanding Company E, Battalion of Engineers.

[First indorsement.]

HEADQUARTERS UNITED STATES MILITARY ACADEMY,

WEST POINT, N. Y., August 7, 1895.

Respectfully forwarded to Hon. Wm. F. Vilas, chairman Committee on Fiscal Affairs, Board of Visitors.

O. H. ERNST,
Colonel of Engineers, Superintendent.

[Then follows a statement of the enlisted strength of Company E, Battalion of Engineers during the fiscal year of 1895, with rank, rates of pay, and allowances. This statement shows 10 sergeants, with pay ranging from \$39 to \$43 per month; 12 corporals, with pay ranging from \$22 to \$27 per month; 2 lance corporals, with pay \$18 and \$19, respectively, per month; 2 musicians with pay, \$13 per month; 39 first-class privates, at pay ranging from \$13 to \$26 per month; 33 second-class privates, at pay ranging from \$13 to \$18 per month.

Captain Lusk also appends the ration allowance and the money allowance for clothing.

The total amount of all pay and allowances for the year to the company is not stated.—S. B.]

Average number of men detailed for duty with the United States Military Academy detachment of cavalry during the fiscal year ended June 30, 1895, rank, rate of pay, and allowances :

Rank.	No. of men.	Cost of rations.	Cost of pay.	Cost of Clothing.
First sergeant	1	\$91. 25	\$372. 00	\$35. 18
Sergeants	5	456 25	1, 346. 14	208. 92
Corporals	4	365. 00	886. 43	222. 12
Trumpeter	1	91. 25	156. 00	28. 73
Farrier	1	91. 25	252. 00	35. 62
Saddler	1	91. 25	252. 00	39. 12
Blacksmith	1	91. 25	180. 00	20. 90
Wagoner	1	91. 25	200. 30	25. 79
Privates	49	4, 432. 23	8, 568. 34	1, 829. 42
Total	64	5, 800. 98	12, 213. 21	2, 445. 80

M. C. BUTLER,
Second Lieutenant, Fifth Cavalry,
Commanding Detachment of Cavalry.

[First indorsement.]

HEADQUARTERS UNITED STATES MILITARY ACADEMY,
West Point, N. Y., August 2, 1895.

Respectfully forwarded to Hon. Wm. F. Vilas, Madison, Wis.

O. H. ERNST,
Colonel of Engineers, Superintendent.

UNITED STATES MILITARY ACADEMY,
OFFICE OF INSTRUCTOR OF ORDNANCE AND GUNNERY,
West Point, N. Y., July 25, 1895.

SIR: In compliance with your letter of 22d instant, I have the honor to inclose herewith number, names, rank, pay, and allowance of clothing for one year to the members of the ordnance detachment under my command during the fiscal year ended June 30, 1895.

Very respectfully, your obedient servant,

LAWRENCE L. BRUFF,
Captain, Ordnance Department, U. S. A.,
Instructor Ordnance and Gunnery, Commanding Detachment.

Hon. WM. F. VILAS,
Chairman Committee on Fiscal Affairs Board of Visitors, 1895.

Number, names, etc., of detachment of ordnance during fiscal year ended June 30, 1895.

No.	Name	Rank.	Pay per month.	Allowance for clothing per year.	Extra-duty pay.
1	John Mahedy	Sergeant	\$40. 00	\$29. 93	
2	James E. Hickey	Corporal	26. 00	29. 93	
3	Andrew Shelton	do	28. 00	24. 45	¹ \$81. 25
4	James F. Berrill	First-class private.	19. 00	27. 37	² 137. 25
5	James Gruver	do	23. 00	27. 37	
6	Michael Hine	do	17. 00	39. 05	
7	James Lane	do	24. 00	27. 37	
8	James Pollard	do	22. 00	39. 05	
9	Robert Power	do	22. 00	27. 37	
10	Eliy Rokes	do	17. 00	27. 37	
11	C. A. Schopper	do	21. 00	27. 37	³ 141. 25
12	James Stanier	do	17. 00	27. 37	¹ 60. 00
13	Theobald Wagner	do	24. 00	27. 37	

¹ Machinist, extra pay at 50 cents per day. ³ Draftsman, extra pay at 50 cents per day.
² Clerk, extra pay at 50 cents per day.

OFFICE OF THE POST SURGEON, CADET HOSPITAL,
West Point, N. Y., July 26, 1895.

SIR: In compliance with the request contained in your letter of the 22d instant, I have respectfully to inclose herewith a tabulated statement of the number, etc., of enlisted men of the hospital corps, United States Army, on duty at West Point, N. Y., giving rank, pay, and allowances.
Very respectfully, your obedient servant,

GEO. H. TORNEY,
Major and Surgeon, United States Army, Post Surgeon.

Senator WM. F. VILAS,
Chairman Committee on Fiscal Affairs,
Board of Visitors, Military Academy, Madison, Wis.
(Through adjutant, United States Military Academy.)

[First indorsement.]

HEADQUARTERS UNITED STATES MILITARY ACADEMY,
West Point, N. Y., July 31, 1895.

Respectfully forwarded to Hon. William F. Vilas, Madison, Wis.
O. H. ERNST,
Colonel of Engineers, Superintendent.

Number, etc., of enlisted men of the Hospital Corps, United States Army, West Point, N. Y., during the fiscal year ended June 30, 1895.

Rank.	No.	Pay per annum.	Clothing allowance per annum.	Money value of ration per annum.	Grand total.
Hospital stewards	2	\$1, 236. 00	\$81. 00	\$890. 00	.....
Acting hospital stewards.....	4	1, 344. 00	715. 00		.....
Privates.....	13	3, 108. 00			.....
Total.....	19	5, 688. 00	796. 00	890. 00	\$7, 374. 00
On duty at cadet hospital..... 11					
On duty at soldiers's hospital..... 8					

HEADQUARTERS UNITED STATES MILITARY ACADEMY,
West Point, N. Y., July 30, 1895.

SIR: In reply to your communication of yesterday, I have the honor to submit the following:

There are employed at the cadet laundry:

1 superintendent and engineer.....	per month..	\$90.00
1 assistant engineer.....	do....	40.00
1 clerk.....	do....	50.00
1 matron	per hour..	.12½
1 chief mangler	do....	.12½
2 assistant manglers	do....	.11½
1 collar and cuff ironer	do....	.11½
1 wringer	do....	.11½
36 laundresses	do....	.11½

At the cadet quartermaster's department:

1 superintendent	per month..	\$110.00
1 clerk	do....	60.00
1 cutter	do....	80.00
1 janitor.....	do....	25.00
1 teamster.....	do....	20.00
1 bushelman.....	per hour..	.25
8 tailors (for new work by the piece, for busheling)	do....	.25
6 tailoresses (for new work by the piece, for busheling).....	do....	.20
2 cobblers (paid by the job).		

At the cadet subsistence department:

1 chief cook.....	per month..	60.00
1 assistant cook	do....	35.00
1 baker	do....	50.00
1 assistant baker	do....	22.00
1 fireman	do....	18.00
1 scullion.....	do....	15.00
1 potato peeler	do....	15.00
1 yard man.....	do....	15.00
1 gardener	do....	20.00
2 assistant gardeners	do....	15.00
1 head waiter.....	do....	28.00
14 waiters.....	do....	17.00
4 pantry girls	do....	13.00

In policing barracks, etc.:

1 head policeman.....	do....	50.00
9 policemen.....	do....	40.00

The instructor in dancing receives \$100 for the season, and the two musicians \$50 each; hire of piano, \$15.

The dentist was paid during the last fiscal year \$1,153.

The number of laundresses and waiters varies from time to time according to the amount of work necessary to be done and the number of cadets present; the numbers above stated were of those employed in June, 1895.

Very respectfully,

A. B. DYER,
First Lieutenant, Fourth Artillery,
Acting Treasurer United States Military Academy.

The ADJUTANT UNITED STATES MILITARY ACADEMY,
West Point, N. Y.

HYGIENE AND ATHLETICS.

Dr. E. G. JANEWAY, Col. PETER HAIRSTON, and Maj. J. M. WRIGHT.

The committee on hygiene and athletics visited the cadet hospital and the hospital for enlisted men with Surgeons Torney and Mason. As a result of these inspections the committee would recommend that an operating room be provided, arranged according to the requirements of the day, for the cadet hospital, having floors, walls, and fittings properly arranged for disinfection, and of such nature as shall be as impermeable as possible and the most readily cleansed.

No hospital at this time is considered perfect unless provided with a suitable operating room. It is no excuse to say that few operations occur, as at any time a number may become necessary in a short period. Moreover, the cadets should have an object lesson in the case of the Government to see that everything is done in the best possible manner, especially where life is at stake.

In the enlisted men's hospital a new floor will make the room satisfactory at present, though not thoroughly complete. (See Dr. Mason's communication.)

The committee would, moreover, recommend that as soon as practicable new floors be laid in the wards, and eventually throughout the hospital. Large cracks exist between the different boards forming the floor, in which, without the greatest care, dust, containing infecting organisms, can accumulate. Hard wood, thoroughly seasoned, should be used for this purpose. The committee are glad to report that the surgeon in charge has already one room refloored in this manner.

The committee would also suggest that in each hospital the present water closets be replaced by the best siphon closets to be obtained. Moreover, they would recommend that the urinals in the closets for enlisted men be rearranged so that there shall be drainage from the floor, with means for appropriate flushing. The floor should be of light color, in order that soiling may be easily noticed.

The committee commend the condition of the hospitals in other respects, and the method adopted by Surgeon Torney in keeping a medical history of each cadet. The needs above alluded to are wants appreciated by the surgeons in charge, but for which they are obliged to wait pending a proper appropriation.

The question of a hospital for infectious diseases has been discussed with the surgeon in charge of the post, and it is his belief that isolation can be more effectually secured by erecting a tent or tents in a suitable place than by having a permanent building provided for this purpose. As for disinfection, a tent isolation hospital can be destroyed by fire if necessary. In view of these facts the committee is willing to leave the provisions for dealing with contagious diseases as at present, more especially as no demonstrated need for such permanent structure has been brought to its attention. Moreover, the committee commend the whole medical care of the post, believing it to be thoroughly satisfactory. Universal testimony establishes the sufficiency of the food supplied under the care of the present able commissary, Capt. W. F. Spurgin.

The two greatest dangers to the health of any group of people from food lie in the water and milk supplied. As regards the former, such provision is being made in the construction of a new reservoir as will, with the provision for filtration of all the water, render this as safe as practicable. An appropriation is asked to secure this filtration of all water supplied to the post under the committee on buildings and grounds. It behooves the committee on hygiene only to enforce the necessity for such provision in order to prevent the outbreak of such diseases as might be traceable to an impure water, viz, diarrhea, dysentery, malaria, and typhoid fever. This latter disease is only possible from communication of a stream by some transient passer-by affected with the disease.

The attention of the Board of Visitors has been drawn to this subject, by the amount of vegetable matter present in the bottom of the pitchers of washing water each morning.

The ice supply is taken from the reservoirs for drinking water, and, so far as can be learned, is mainly now, and in the future will be, practically free from any liability for blame as regards ill health.

The milk supply of any post situated in a rural district should be a subject of constant supervision. Such investigation should cover the following points: The health of the cows giving the milk, the condition of the water supply of each dairy furnishing milk, not only of the well, spring, or stream which is said to be used, but also of any which under any circumstances might be used, and of the method and place of milk storage. Your committee would suggest that it shall be a rule that the cows of each dairy furnishing milk to this institution shall be carefully examined by competent veterinary surgeons; second, that the water supply of each dairy furnishing milk to this institution shall be carefully examined as regards the possibility of its becoming at any time contaminated, and that in case such contamination is remotely possible no milk be taken until such changes have been carried out as will prevent any liability.

It is recommended that the proprietor of each dairy shall agree to inform the proper authority immediately upon the occasion of any sickness occurring either in his family, his hired people, or his boarders, and also in his herd of cows.

This recommendation is made in order that the surgeon of the post may investigate as to the nature of the disease, and may study the possibility of contamination of the milk, and may be able either to exclude the milk from use at the post during continuance of sickness or lay down such rules as shall prevent contamination of milk.

It is recommended that an appropriation be made for the employment of a veterinary surgeon, under the control of the surgeon, for an inspection of cows.

In the main, so far as can be learned, the hygienic condition of buildings and grounds is good. The main sources of complaint exist in the quarters of the enlisted men. There are two barracks, a row of wooden houses for enlisted married men, the guardhouse, and the bakery not in a perfect sanitary condition. They would need either rearrangement for some or reconstruction and destruction in the case of the wooden buildings. This has long been recommended, but appropriations have failed because other more or equally important matters involving expenditure had precedence.

The committee find that the athletic teaching is in a satisfactory state, and agree as regards football with the conclusion reached by the Superintendent as related in his report for 1894. We can not find that during the past year anything has occurred in the play at this post to warrant prohibition of the game. We would believe that the best result in this regard can be obtained by allowing its continuance under the close scrutiny of the Superintendent and of the physician in charge as regards either physical detriment or scholarly impairment of such nature as to call for its suppression.

The drill in the gymnasium illustrated the result of the teaching in bringing about a high average of muscular development.

EDWARD G. JANEWAY.

J. M. WRIGHT.

P. HAIRSTON.

SOLDIERS' HOSPITAL, UNITED STATES MILITARY ACADEMY.

West Point, N. Y., June 10, 1895.

SIR: In compliance with your verbal request, I have the honor to submit the following memoranda in reference to the sanitary condition of the buildings inspected by you:

Guardhouse.—Insufficient light and ventilation; inadequate size.

Bakery.—Insufficient size; inadequate ventilation.

Engineer barrack.—Attic used as a squad room in winter.

Very respectfully, your obedient servant,

CHAS. F. MASON,

Captain and Assistant Surgeon, United States Army.

Dr. E. G. JANEWAY,

Chairman Committee of Hygiene and Athletics, etc.

(Through military channels.)

[First indorsement.]

CADET HOSPITAL, UNITED STATES MILITARY ACADEMY,

West Point, N. Y., June 10, 1895.

Respectfully forwarded to the adjutant United States Military Academy.

GEO. H. TORNEY,

Major and Surgeon, United States Army, Post Surgeon.

[Second indorsement.]

HEADQUARTERS UNITED STATES MILITARY ACADEMY,

West Point, N. Y., June 10, 1895.

Respectfully transmitted to Dr. E. G. Janeway, chairman committee on hygiene.

O. H. ERNST,

Colonel of Engineers, Superintendent.

UNITED STATES MILITARY ACADEMY,

SURGEON'S OFFICE, CADET HOSPITAL,

West Point, N. Y., June 7, 1895.

SIR: In compliance with your verbal request, I have the honor to invite your attention to the following improvements deemed necessary in the cadet hospital. They are enumerated in the order of their importance, and, as far as practicable, the amounts required for their completion are set forth:

OPERATING ROOM.

Removing floors, wall, and ceiling.....	\$50.00
Concrete filling for floor.....	80.00
Tile floor	400.00
Lining walls with enameled brick.....	850.00
Blocks and tiling.....	450.00
Iron beams, window casing, and sash with plate glass	250.00
Iron frame and sash for skylight.....	200.00
Hot and cold water connections and wash-out trap.....	60.00
Seimens' gas burner, with connections.....	50.00
Total	2,390.00
10 per cent for contingencies.....	239.00
Grand total.....	2,629.00

It is proposed to convert the southeast corner room of the third floor into an operating room, and, in its reconstruction, to make it conform to all the requirements of modern surgical technology in the treatment of diseases and injuries. At this time there is no proper place in this hospital suitable for the performance of surgical work under strict aseptic or antiseptic conditions

It is recommended that the appropriation for the purpose above indicated be made immediately available upon the passage of the Military Academy appropriation bill for the fiscal year ended June 30, 1897.

15,000 feet hard pine flooring, for reflooring the wards, rooms, and halls of the building, at \$50 per M..... \$750.00

100 days' labor of carpenter in laying same, at \$3 per day.....	\$300.00
The floors of the building have not been renewed since its construction. In many places the surfaces are irregular, and nearly all the seams are widely opened.	
Repair of chimneys	\$100.00
Repointing of joints of stonework of walls.....	150.00
Repainting of all exterior wood and ironwork.....	300.00
Repainting of walls and interior woodwork.....	900.00
Repainting of roof of annex.....	15.00
4 boxes of window glass, at \$3.....	12.00
12 locks for doors, at \$1	12.00
Granolithic pavement for area in rear of hospital.....	900.00
45 gallons turpentine and 100 pounds paraffin for polishing floors.....	35.00
30 pounds ammonia chloride for batteries.....	5.00
2 lamps for posts at bottom of entrance stairs.....	75.00
Material for rebronzing of radiators.....	30.00
Speaking tube between office and dispensary.....	30.00
Wire screen for dispensary counter.....	50.00
2 doors for dispensary, open ironwork.....	45.00
Door for entrance hall, open ironwork.....	75.00
4 benches for entrance hall, for cadets at sick call.....	80.00

Respectfully submitted.

GEO. H. TORNEY,
Major and Surgeon United States Army, Post Surgeon.

DR. E. G. JANEWAY,
Chairman of Committee on Hygiene, etc., Board of Visitors, West Point, N. Y.
(Through adjutant United States Military Academy.)

[First indorsement.]

HEADQUARTERS UNITED STATES MILITARY ACADEMY,
West Point, N. Y., June 8, 1895.

Respectfully transmitted to Dr. E. G. Janeway, chairman of committee on hygiene, etc.

O. H. ERNST,
Colonel of Engineers, Superintendent.

SOLDIERS' HOSPITAL, UNITED STATES MILITARY ACADEMY,
West Point, N. Y., June 7, 1895.

SIR: In compliance with your verbal request, I have the honor to submit the following statement of alterations and improvements deemed necessary to put the soldiers' hospital under my charge in proper condition.

(1) Such changes in the steam-heating plant as will make it adequate to heat the entire hospital in accordance with the original plans. As it is now the north ward can not be heated except by the use of a stove.

(2) Removing the dark-colored tiles in the wash room and replacing them by those of a light color; removing the present water-closet bowls, which have an insufficient flush, and replacing them by siphon bowls; removing the present urinals, which allow dripping on the floors, and replacing them by vertical stone slabs with a floor flush.

(3) Removing the floor of the operating room and replacing it by a new one without any cracks between the flooring to collect dust and retain disease germs.

Very respectfully, your obedient servant,

CHAS. F. MASON,
Captain and Assistant Surgeon, United States Army,
in Charge of Soldiers' Hospital.

DR. E. G. JANEWAY,
Chairman Committee on Hygiene and Athletics.
(Through military channels.)

[First indorsement.]

CADET HOSPITAL, *West Point, N. Y., June 8, 1895.*

Respectfully forwarded through adjutant United States Military Academy.

GEO. H. TORNEY,
Major and Surgeon, United States Army, Post Surgeon.

[Second indorsement.]

HEADQUARTERS UNITED STATES MILITARY ACADEMY,

West Point, N. Y., June 10, 1895.

Respectfully transmitted to Dr. E. G. Janeway, chairman committee on hygiene.

O. H. ERNST,
*Colonel of Engineers, Superintendent.*WEST POINT, N. Y., *June 8, 1895.*

SIR: Complying with your oral request, I have the honor to submit briefly my views upon the water supply of the post of West Point:

Quantity of water.—The daily consumption of water for all purposes is about 325,000 United States gallons. There is no apparent reason for any increase in the near future. The volume of storage is at present insufficient to meet this demand, and some restriction of consumption and an excessive drawing down of the main reservoir are necessary. The new reservoir now under construction will provide an ample volume and render it possible to have on hand, at the beginning of any dry season, a quantity at least equal to the total annual consumption. This feature of the question may therefore be said to be settled upon a good basis.

Quality.—The source of supply is the rainfall taken from streams and ponds, which are fed from gathering grounds of almost ideal excellence. There is no reason for apprehending pollution from animal sources.

The streams all go entirely dry during seasons of drouth, and dependence must be had upon stored water for several months. This stored water, as well as that obtained from the running streams when they are low, contains vegetable matter in suspension and a moderate quantity in solution. To remove this vegetable matter as far as practicable, as much of the daily consumption as possible is subjected to sand filtration through a filter bed of the Kirkwood pattern. The filtered water appears to be entirely unobjectionable.

Unfortunately the size of the existing filter bed is only about one-fourth what it should be in order to secure the best results.

By direction of the Superintendent, I am now engaged in studying the question of increased filtering capacity, with a view to submitting estimates to be laid before Congress at its next session.

With the completion of the new reservoir and of the proposed addition to the filtering plant, I believe that the water delivered for daily use will be all that is to be desired.

Very respectfully, your obedient servant,

JAS. L. LUSK,

Captain, Corps of Engineers, in Charge of Water Supply.

Dr. E. G. JANEWAY,

*Chairman Committee on Hygiene and Athletics,**Board of Visitors to the United States Military Academy.*

(Through headquarters, United States Military Academy.)

[First indorsement.]

HEADQUARTERS UNITED STATES MILITARY ACADEMY,

West Point, N. Y., June 10, 1895.

Respectfully transmitted to Dr. E. G. Janeway, chairman committee on hygiene.

O. H. ERNST,
Colonel of Engineers, Superintendent.

ADDRESS OF HON. SETH L. MILLIKEN.

The Board of Visitors, for some reason which I can not understand, or, more likely, for no reason at all, have designated me to address you upon the occasion of your graduation—an occasion which you feel to be of the greatest importance to yourselves; indeed, marking a crisis in your careers.

I have so much faith in the good will to myself, of the members of the Board that I believe they considered this honor a kindness to me, and I take it as such; but I feel no less assured that when I shall have concluded my remarks you will not believe their action in this respect to have been a kindness to you. Other gentlemen on the Board much more intimately connected with this institution than myself—themselves a part of its honorable history—could have, and should have, performed this duty much better and more to your satisfaction than I can do it.

But if my remarks have no other virtue they shall have that of brevity. I have no purpose to inflict upon you a formal oration. I feel that would be out of place and painful to you under any circumstances, even if I were prepared to do it. You see before you your homes, as Moses saw the promised land, and you want to have no delay made by public speeches or anything else in your immediate efforts to reach them.

I will not treat you, as did the fellow who after wearying his audience with a four hours' speech, said, "Gentlemen, I am talking to posterity," when one of his hearers responded, saying, "Yes, and they will be here before you get through talking."

But I can not but congratulate you upon your graduation, not so much because it is to relieve you of your hitherto arduous duties and give you an opportunity to walk out into the open ways of life, but because you have had the ability to achieve it.

The graduation of any class from the United States Military School is significant. It is significant of the character, the active brain, the industry, the faithfulness, and manly stamina of those who stay here and achieve it. While you have come triumphantly through the rough pathway which every graduate of this institution has to travel, many have fallen by the wayside, unable to surmount the difficulties and carry the burdens which all are obliged to encounter and bear if they would reach the goal for which all have started. You have achieved a victory in the first important effort of your lives. Your first campaign has been a success.

This excellent institution, so wisely designed and to-day so skillfully and fairly managed, more than any other tests the capacity and industry of the students who enter it. There is no partiality shown here; no aristocracy of birth or wealth or social standing. Every cadet is put upon his mettle, and the fittest survives.

When upon his deathbed Alexander the Great was asked to whom he bequeathed his kingdom he replied, "To the strongest." He knew the strongest would get it, if indeed it should hold together for any one, after his hand of genius, which had created and sustained it, should be taken from it.

You have survived all the perils of your four years' course here, and arrive at the line of graduation because you have been the strongest—the strongest in will, in determination to succeed, the strongest in effort.

You know it is said, on excellent authority, that "the race is not to the swift nor the battle to the strong." Of course, it is not always; circumstances may sometimes defeat the best and wisest efforts; but, barring accidents and Divine interposition, the strongest win the battles and the swiftest the races.

This you have done, and when you shall have left this preliminary field of contest you will find that in the great battle of life which is before you, into whatever pursuit you may enter, whether you shall enter the army or follow any other avocation, you will have always a contest upon your hands, and the same virtues of courage, energy, patience, fidelity, and persistence which have so well served you here will be necessary to your success there.

Many a man has lost his fish in landing them; many a harvest, however well planted and attended to, has been lost in garnering it. Many a battle has been fought and its fruits lost by neglect after the victory had been won.

You have, by perseverance and industry, won your first victory. Fail not to remember, and every day realize, that to build successfully upon the solid foundations which you have laid here, you must continue to exercise the same virtue by which you have so well laid the substructure.

A man may by temperance, enterprise, activity, and wisdom build himself a fortune, but if when he has accumulated it he forgets to exercise the virtues by which he has accumulated it, then it will take unto itself wings and fly away. So if when you shall have left these classic grounds whose history must have inspired in no small degree your energy and ambition, you shall slacken your efforts and forget to utilize the splendid discipline which you have here received, then what you have done will go for naught, and failure will be the consequence.

But I have little fear that you will do this. The power of applying the mind continuously to good work, so well inculcated here, can hardly be neglected and lost by those who have had the virtue to acquire it.

You have noble examples to inspire you. About these grounds to-day cluster the heroic spirits of many generations of your countrymen whose lives have shed luster upon the land which we love. George Washington, who never achieved any astounding victory like Jena or Cannæ, but whose great wisdom, whose patriotic spirit, whose persistency in the pursuit of the cause committed to him, and whose fidelity to his trust and faith in the ultimate success of his country's effort made him one of the grandest characters of all mankind and gave to his cause a permanent victory which greater geniuses have failed to achieve, once had his headquarters here, and so have many others whose achievements and sacrifices sowed in blood the good seed winnowed from Europe's great political chaff pile and made it fruit in the free institutions which we to-day enjoy. You must have caught their spirit upon this classic ground.

Do not lose it when you leave here, whether you shall enter the Army or follow the pursuits of peace. That spirit is the breath of patriotism—it can not but fill your souls with an appreciation of your institutions. With this spirit in your hearts you can not fail to be the proud defenders of your country wherever you may be, whether in the struggle of war or in the quiet pursuits of civil life.

In any field of endeavor you will find opportunities enough to show your love of your country and its institutions by your efforts to strengthen their hold upon the hearts of the people, promote their progress, and enhance their dignity and honor in the eyes of mankind.

And who so fit to do it as you? Here you have had an opportunity to drink from the fountain head of patriotism. It has been inculcated by every lesson which you have learned—taught to you in order to fit you better to serve your country in the most arduous and dangerous duty which it ever calls upon its sons to perform. The sunrise gun but voices the spirit of patriotism and a readiness to enter upon the sternest service at your country's command. Wherever you may be located among the people you will be regarded as living emblems of the nation's fidelity to its own integrity, and the maintenance in all their purity of the principles of liberty and law which have made our country the wonder, the envy, and the hope of mankind.

The marvel of our growth, of the power of the individual, and of the appliances of science in our land above what they are in any other country. I have not time to state to you in detail, but they are enormous, and they are all the natural growth from our free institutions. It is the light of liberty which has shown our people the way to the achievement of such results of beneficence as are the causes of amazement to the slow and plodding people of despotic countries.

When our forefathers declared their independence, and through seven years of sacrifice, suffering, and brave achievement secured their liberty and established freedom and just government for themselves and

their posterity, they gave to the wheels of progress and civilization an accelerated motion never known before. The light of liberty carried with it everywhere the light of intelligence. Under the protection of freedom's sword the schoolhouse was erected, and to-day we have forty-one millions of educated people, something that no other nation has or ever had. The statue of "Liberty Enlightening the World" is but emblematic of what the principle of freedom, embodied in our Constitution and laws and inspiring our people, is doing for mankind.

France is free, and stronger, richer, and happier than at any other period of her existence; Brazil has thrown off the panoply of monarchy and put on the robes of a republic; the Governments of the Old World are growing more liberal, and there is hardly a people within the pale of civilization which has not been impregnated with the leaven of liberty by the inspiration which they have received from the salutary and impressive example of free and progressive America.

Then, young men, we pray that you, who have been educated to be peculiarly the guardians of the Republic, may never forget that liberty is the soul of our institutions and our laws, and that fidelity in maintaining them is the first duty of both the soldier and the citizen. This lesson has been most faithfully taught you here. Let no negligence cause you to forget, and no temptation induce you to disregard it.

Let your patriotism be as firm as the giant mountains which surround you, and as enduring as the broad river of beauty which runs at their base. Let the escutcheon of your country be the dearest of all emblems to your hearts. Think of all that it signifies, and the stirring memories which it must arouse in the minds of all true soldiers and good citizens of the nation. Why, young gentlemen, who can look upon that grand old banner of the Republic, whether it flaunt its gay colors in the sunlight, or hang, bullet pierced and battle worn, at the masthead, there, the record of brave deeds upon many a heroic field of battle? who can remember its history—the exploits and achievements of our countrymen which it has witnessed; what a grand story it could tell if it had consciousness and a tongue; what perils it has encountered; how it has passed them all and floats more proudly in the face of the nations to-day than ever before—without a prayer in his heart that it may never be trailed in the dust of defeat and dishonor, but in the future, as in the past, yet for thousands of years to come still victoriously brave the battle and the breeze.

Love of country, pride in the achievements which have shed luster upon it, is an attribute of every civilized people which has or has had a country to love and revere. I will venture to say that among all the immigrants which have come to our shores you have rarely found one whose eye has not kindled and his heart quickened at the mention of his native land.

When the heather of Scotland, its rocks and its cairns, its friths and its lakes, its glens and its mountains, its great men and its heroic his-

tory cease to live in the heart and animate the soul of every Scotchman, wherever he may be, then the nature of that people will have radically changed. Just call his attention to them and see how quickly he will manifest his feeling of affection for them, and he will not let you go before he has sensibly betrayed his pride in his heritage in the fame of the sweet songs of Burns, the exploits and achievements of Wallace and of Bruce.

The Frenchman will tell you that there is no land like beautiful France, no history like her history, no record of heroic achievement like that which she has displayed from the days of Charles Martel and Charlemagne to the last great battle of the mysterious and wonderful Napoleon.

The Dutchman will point to the dikes and canals and many monuments of his country with patriotic pride. And the Irishman—yes, the Irishman, whatever be his condition, whether he be carrying a hod, digging a ditch, or living in prosperity and wealth—is ever ready, upon the smallest provocation, to throw up his cap for his own green isle of the ocean.

And so they all do. They love their country because it is their country; because it is the place where they first saw the light of existence; because it is the land of their lineage and language and the scene of all great and glorious effort in which they can claim a heritage.

We love our country for all this. We love it for its grandeur; for its great rivers, its broad prairies, its gigantic mountains, its splendid scenery, its fields of fertility, and its mines of wealth. We love it for its institutions of learning and beneficence, for its unprecedented spirit of enterprise and unparalleled progress in all that a people desire and a nation should be proud of; but above everything else, we love our country because it is the land of liberty, the asylum of the oppressed—the one great home and fortress of freedom upon all the face of the globe—and on this account, not for ourselves alone, not alone even for our children and our children's children, but for mankind, we will fight for its existence, labor for its prosperity, and contend for its honor and glory.

Indeed, we know that to maintain our institutions is necessary, in order to uphold the exalted position of our country, insure its advancement, and conserve the manhood of our people. For while men make institutions, the latter reciprocate in turn and make the strength.

Russia, that before the days of Peter the Great, was a nation of poltroons, and in the early campaigns of that monarch saw its armies driven like scattered sheep before the columns of Charles XII, of Sweden, by training and discipline under the influence of strong institutions, has become one of the solidest and bravest nations upon earth.

Rome, once the mistress of the world; the land of heroes; she who by her intrinsic, manly stamina could cope with the blazing genius of Hannibal; could produce her Cæsars and Scipios and Catos by the

swarm, after the overthrow of the grand old republic and the destruction of her institutions, while still, to be sure, gathering up for a few generations the splendid fruits which the republic had ripened, began to decay, and ceased not the process till she became a land of bigotry and of beggars.

Greece, yes, classic Greece, in the rich halo of whose hallowed memories we so much delight to linger, her physical powers excelled only by her mental conceptions which may almost with truth be said to have been divine, saw the deathblow to her manhood in the destruction of her institutions, and she has been dying all down through the ages, like the expiring dolphin, showing in her transition the varied colors of beauty with which genius in her lifetime had endowed her.

Why, to-day the sun gilds her marble mountains and warms the green sides of her valleys as in days of yore, but the stout hearts which once defended them and the quick spirits which caught their impressions and transferred them into language or upon chiseled stone are gone.

The river of her sacred nine still flows, but no more do the muses frequent it. The place of her Delphic oracle still remains, yet none presides or worships at it.

There is the same beauty scenery, the same hills and streams, the same blue sea, the same gorgeous sun to shine upon it, and the same kind heavens to bend over it all. And it is all as lovely and impressive as ever. Yes, beautiful and inspiring it is still, but it is the beauty of splendid ruin, the inspiration of the great, brave, regretted dead who, even from their ancient tombs, can effect our spirits. "Tis Greece, but living Greece no more." Her institutions have departed and the manhood of her people has decayed. Oh! let us hope, and let it be our effort, too, so far as within us lies, and especially your endeavor, young soldiers of the Republic, that vice, corruption, and want of patriotic feeling may not ripen our institutions for destruction's scythe, so that the friends of humanity shall one day here lament over the sad spectacle of an effete people walking among the ruins of a once great and glorious nation, but let them rather look up to behold and admire its still standing columns of strength and beauty shadowing a brave, virtuous, sturdy race.

To this end you have been educated at the nation's expense in this most excellent institution. Its thorough discipline and instruction in all that goes to develop the brave and patriotic elements of your natures must have prepared you to be your country's steadfast supporters and gallant defenders in every future emergency whenever your services shall be demanded.

Indeed, I can not but feel assured, while looking upon your manly bearing and knowing something of the training which you have received here, that in the career which is before you you will not disappoint the highest expectations and fondest hopes of your countrymen.

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UNITED STATES MILITARY ACADEMY.

ANNUAL REPORT
OF THE
SUPERINTENDENT UNITED STATES MILITARY ACADEMY.

HEADQUARTERS U. S. MILITARY ACADEMY,
West Point, N. Y., September 16, 1895.

The ADJUTANT-GENERAL, UNITED STATES ARMY,
Washington, D. C.

SIR: I have the honor to submit this my annual report for the Military Academy for the year ending September 1, 1895.

PERSONNEL.

The number of officers and instructors on duty at West Point, September 1, 1895, was 8 professors, 1 associate professor, 54 commissioned officers, 1 swordmaster, and 1 teacher of music; a total of 65. (See roster appended, marked A.) The number September 1, 1894, was 64. The increase during the year was due to a gain of 1 officer for duty in the departments of history and of law, restoring the number employed in those departments to what it was before the reduction last year. In all 15 officers joined during the year and 14 were relieved.

The number of cadets present and absent September 1, 1895, was 324, including 1 foreigner receiving instruction by special authority of Congress. The number September 1, 1894, was 322, including 2 foreigners. During the year 29 were discharged for deficiency in studies, 1 (a foreigner) for deficiency in discipline, 2 for physical disability, 19 resigned, and 52 were graduated, while there were admitted in all at the examinations held in March, June, and August 105.

For the three examinations referred to there were appointed in all 327 candidates, including 127 alternates. Of these, 45 failed to appear and 165 were found not duly qualified, either mentally or physically, or both. Of the remaining 117 who passed, 17 were alternates whose principals also passed and for whom there were therefore no vacancies, leaving 100 who were regularly admitted. Of those rejected by the medical board, 5 were subsequently admitted on probation, making the total number admitted 105. In many cases the candidates had been rejected at previous examinations.

The experience of former years has been similar to this, and shows clearly that it is not practicable to keep the number of cadets up to the maximum authorized by law, and that there will always be many vacancies. The number now authorized is 371, omitting the foreigner, an excess of 48 above the number actually belonging to the Academy. It is desirable, I think, from every point of view that the

Academy be worked up to the full capacity of its present plant. It should furnish all the officers for our Army in time of peace, which it can not now do, and if in addition it could send into civil life each year a few young men trained as its graduates are the country would be the gainer by many times the trifling additional cost of their education. A moderate increase in the number of cadets authorized by law is accordingly recommended; such, for example, as would be obtained by appointing 2 at large from each State, to be nominated by the Senators representing the State in Congress.

ACADEMIC DEPARTMENTS.

The departments of philosophy, drawing, mathematics, chemistry, etc., history, etc., engineering, law, modern languages, tactics, practical military engineering, and of ordnance and gunnery have maintained the high standard of instruction for which they have always been noted. While the heads of these departments have not failed to keep abreast of all advances made in their special branches of knowledge, and to introduce improvements when opportunity offered, the changes in the majority of them have been of a minor character and do not call for special mention here.

The act approved January 16, 1895, provides that "hereafter there may be assigned to the department of law one assistant professor." All of the departments headed by full professors are now provided with assistant professors, having the pay of captain mounted. The senior assistant instructors in cavalry, artillery, and infantry drill regulations also receive the pay of captain mounted. It seems but just that the senior assistants in the departments of practical military engineering and of ordnance and gunnery should receive the same pay. These two departments are the only ones in which the senior assistant receives no extra compensation.

THE LIBRARY.

During the year ending August 31 there were purchased for the library 602 volumes and 89 pamphlets, and there were presented to it 586 volumes and 247 pamphlets, making the additions for the year 1,188 volumes and 336 pamphlets. The donated books were presented mainly by the Bureau of Public Documents.

The total number of books and pamphlets in the library on September 1 was 38,203 volumes and 5,914 pamphlets.

The act approved January 16, 1895, contained the following item, viz:

For procuring architect's plans, specifications, estimates, and drawings for complete renovation of the library building, namely: For removing towers of the old observatory wing, the walls, floors, and interior of that part now occupied by the philosophical department, and making the whole fireproof; for fitting up of new library cases and shelves and adjusting the interior to comply with the requisites of a modern library, and to make suitable modifications and alterations necessary to make the present building suitable for the purposes of a library, \$1,250.

The work of preparing the plans and estimates was intrusted to Mr. R. M. Hunt, of New York, and after his death to his son and successor, Mr. R. H. Hunt. Preliminary sketches furnished by him last spring were submitted to several members of the Academic board for criticism. After giving due weight to the views thus elicited, full drawings and specifications have been prepared. The estimated cost of the alterations is \$63,100, to which should be added \$6,900 for removing and returning the books and for inspection and contingencies, making the

total estimated cost of the work, \$70,000. As stated in former reports the library has entirely outgrown the space heretofore allotted to it, and one of the most pressing needs of the Academy is the reconstruction of this building. The need becomes more and more pressing each year. As it will be necessary to find temporary storage room for the books while the work is in progress, the Academy will be subjected to much inconvenience, and in order that that may be kept at a minimum the work, when undertaken, should be pushed to completion as rapidly as possible, and the full amount of the estimate should be available at one time.

HEALTH.

The health of the command was generally good. No death occurred among the cadets. Among the officers and their families there was but one death, an infant. One death occurred among the enlisted men, and seven among civilians residing or visiting upon the post. Epidemic influenza of a mild type made its appearance in December, 1894, and prevailed until March. There were numerous cases of malarial fever during August, one of them being of a dangerous type. The report of the post surgeon is hereto appended, marked B. Particular attention is invited to the concluding paragraph, in which he shows the importance of constructing a modern operating room in the cadet hospital, and in which I concur.

DISCIPLINE.

The state of discipline of the corps of cadets has been generally excellent. No case of dismissal or suspension by court-martial occurred during the year. The usual discipline was maintained in the other portions of the command by the usual methods.

ACCOUNTS AND SUPPLIES.

The system of keeping the accounts and of furnishing the cadets with supplies continued essentially as heretofore reported. An abundance of good, healthy food in sufficient variety was furnished at an average cost of about 50½ cents per man per day. Clothing, books, and other articles were furnished of good quality and at low rates. Attention is invited for details to the report of the treasurer and quartermaster and commissary of cadets, hereto appended, marked C.

ARTILLERY.

Further progress was made in replacing guns and carriages which had become obsolete with those of modern pattern.

Important additions were made to the list of models and sample guns for the general theoretical instruction of cadets. For details, attention is invited to the report of the instructor of ordnance and gunnery, hereto appended, marked D.

The work of constructing new permanent platforms in the seacoast battery for a new 8-inch rifle, a new 12-inch breech-loading mortar, and 3 front pintle platforms was completed.

The drivers for the light battery are obtained from the cavalry detachment. This service has not been popular with the cavalry soldiers. Their instruction and service as drivers is additional to their regular

duties, and is under officers different from their regular officers. It involves considerable wear and tear of clothing, for which they should receive compensation. I recommended two years ago that they be paid 30 cents each per day extra for the time during which they are employed upon the extra duty, the total amount required for the 28 men concerned being \$840 for the year. The appropriation bill for last year contains an item of \$560 for this purpose, but through some accident the item was omitted from the appropriations for the current year. It should, I think, be restored and increased to \$840, as originally recommended.

I beg leave to repeat my remarks of last year upon the subject of the band, the master of the sword, and the adjutant of the Academy, as follows, viz:

BAND.

By the act of March 3, 1877, the Military Academy band was reduced to 1 teacher of music and 24 enlisted men, which is its present authorized strength. Of the enlisted men 6 receive \$34 per month, 6 \$20, and the remaining 12 \$17, with the usual allowances of enlisted men. At the time of this reduction the band consisted of 1 teacher of music and 40 enlisted musicians, of whom 10 received \$34, and the remaining 30 received \$30 per month, with the usual allowances of enlisted men. Since that date every Superintendent of the Academy, with perhaps one exception, and many or all Boards of Visitors have recommended an increase of the band. To anyone familiar with music it needs no argument to prove that the present numbers and pay are not sufficient. Is a good band really necessary to the practical efficiency of the Academy, is the only question which can be asked. The answer is plain when the purpose which the band subserves is considered. Military pomp has a serious and practical object—the cultivation of the military spirit. It is in the same category with patriotic songs, discipline, and monuments to dead heroes. There is no more essential part of it than good music. I recommend that the band be restored to the numbers and pay which it had before the reduction in 1877. I recommend further that the leader receive the rank, pay, and emoluments of a second lieutenant of infantry. The increase is desired not for the purpose of gratifying an idle vanity or merely to provide pleasure, but to improve the finer polish given to the finished product of the Academy.

MASTER OF THE SWORD.

The swordmaster is also the instructor in gymnastics and swimming. He is a civilian, appointed by the Secretary of War. The present incumbent has worked up an admirable course of gymnastics for the corps of cadets. His system of calisthenics has been adopted by the War Department for the use of the Army. He is required to preserve discipline and to exercise control of cadets while under his instruction. It would greatly strengthen his hand if he should have military rank, and, in view of the great and increasing importance of his department, I recommend that legislation be solicited giving him the rank, pay, and emoluments of a first lieutenant of infantry.

ADJUTANT OF THE ACADEMY.

The adjutant of the Academy is also secretary of the academic board, and upon occasions of ceremony acts as aid-de-camp to the Superintendent. His duties are at least as important as those of an assistant

professor, and they are more onerous, while his personal expenses are greater. It seems but just that the officer holding this position should receive the pay of captain, mounted, as in the case of assistant professors. Legislation to that effect is recommended.

WATER SUPPLY.

Good progress was made during the year in the construction of the new reservoir. It is expected that the main dam will be completed during the present working season.

The capacity of the present filters is insufficient, and they are not well located. As it is desirable that the water supplied to the post be filtered for about five months of the year, an estimate is submitted for filters of adequate size, to be located south of the new dam. The 12-inch main, which until recently terminated at the gymnasium building, is now being extended to the south end of the new Academy building, replacing the old 7-inch main. For the better protection against fire, and to furnish an ample supply of water to the southerly end of the post, this main should be extended until connected with the new reservoir from the south, thus permitting of the admission of a full flow from either end. An estimate for this work is submitted.

Attention is invited for details to the report of the instructor of practical military engineering, hereto appended, marked E.

BUILDINGS AND GROUNDS.

The new Academy building reached a stage when it could be partially occupied in January, 1895. The rooms of the department of philosophy were first ready, and that department moved in, the first recitation being held there January 16. The other departments moved in succession, as their rooms became capable of use, until by the end of January all were domiciled in the new building. The building was not finally completed and accepted from the contractors until August. Final payment was made August 28, the contract having been carried out in a satisfactory manner, except as to time of completion. There can be no doubt that the increased facilities for instruction furnished by this building, and its better ventilation and light, will raise the standard of this institution. The building has been supplied with plain, substantial oak furniture made to order, conforming in pattern and finish to the character of the building itself. The arrangement of the model rooms, museum, and cabinets is still in progress.

To complete this building according to the original design the clock tower remains to be constructed. It is no doubt a desirable feature, and last year I submitted an estimate for it. There are so many demands, however, for things that are in my judgment more pressing, that I have concluded to omit this work from the estimates of this year.

The set of quarters for a married officer, near the old Kinsley mansion, was finished and occupied. Several additional sets of officers' quarters are needed to prevent overcrowding. An estimate for three sets is submitted.

Progress upon the quarters for unmarried officers was slow and unsatisfactory, being characterized by persistent attempts at fraud by the contractor. Under special authority of the War Department the Government has taken charge of the building, and it is now occupied by unmarried officers, but it has not been completed according to contract and final payment has been withheld.

An artificial stone pavement was laid near the gymnasium building and the grounds in the vicinity much improved.

The old wooden floor in the cadet mess hall was removed and a handsome tile floor and wainscoting were placed and the walls, ceilings, and woodwork renovated throughout, adding greatly to the cleanliness and attractiveness of the room.

The cadet chapel was renovated inside and outside, the upholstery renewed, and the walls, ceilings, and woodwork painted inside and the exterior walls repointed and painted where required.

A model of the new figure of Fame, to replace the present figure upon the Battle Monument, was submitted by Mr. McMonnies in March last, and was approved by the committee. The figure itself has not been received. The bronze tablets carrying the names of the enlisted men were found to contain many errors and were otherwise unsatisfactory. They have been removed from the monument and are to be replaced by others. Nothing in the way of construction upon the ground was done during the year. It is hoped that the monument will be finally completed during the coming year. On the 30th of June last it was struck by lightning and a small piece of the molding at the top of the main shaft was knocked out. During the same storm the flagstaff of the post was demolished by lightning.

Unexpected delays have occurred in beginning the construction of the Cullum Memorial Hall. The plans and specifications were finally completed to the satisfaction of the board of trustees and were forwarded to the War Department on the 12th of February last. The plans received the approval of the Honorable Secretary of War, but not the specifications. They were returned to the board by letter from the Adjutant-General, dated March 14, 1895. A revised copy of the specifications was forwarded to the War Department March 25, 1895, and these were approved with some modifications by indorsement dated March 30, 1895. Under the approved plans and specifications the work was extensively advertised, beginning April 4, and bids were opened May 15. Seventeen bids were received, and one of them, satisfactory to the board of trustees, was recommended for acceptance. This recommendation was disapproved by indorsement of June 17, 1895, and it was ordered that all bids be rejected and the work be readvertised. It is expected that a new advertisement will be published at an early day.

The report of the post quartermaster, who is also quartermaster and disbursing officer of the Academy, is hereto appended, marked F.

ESTIMATES.

The estimates for the next fiscal year include some costly improvements, such as the reconstruction of the library building, new and enlarged filter beds, and new water main for south end of post. Among the less costly items are a guardhouse for the south gate, a commissary storehouse, a quartermaster storehouse, additional quarters for officers, quarters for the teacher of music and for the steward of the cadet hospital, a stable for officers' horses, a sidewalk from the south dock to the top of the hill, a piazza for the cavalry barrack, and moving a building erected some forty years ago and now an obstruction. There are numerous items of minor improvements. In all they foot up to an amount considerably larger than the appropriations for the current year, but they do not include anything which is not in my judgment for the good of the Academy. The necessity of each is explained in the remarks accompanying the estimates.

CONCLUSION.

In conclusion I have to repeat my report of last year that the Academy is in a flourishing condition. It is passing through an era of improvement, so far as its equipment and outward physical condition are concerned, due to the greater liberality of Congress in recent years. The curriculum, both theoretical and practical, is the result of many years' experience, and has proved itself well adapted to the objects of the institution. The professors and officers are accomplished, each in his sphere, and are devoted to their work and deserve well of the Government.

Very respectfully, your obedient servant,

O. H. ERNST,
Colonel of Engineers, Superintendent.

LIST OF APPENDICES.

- A.—Roster.
- B.—Report of post surgeon.
- C.—Report of treasurer and quartermaster and commissary of cadets.
- D.—Report of instructor of ordnance and gunnery.
- E.—Report of instructor of practical military engineering.
- F.—Report of quartermaster.

A.
UNITED STATES MILITARY ACADEMY.
WEST POINT, NEW YORK.

SUPERINTENDENT.

Col. O. H. ERNST, Lieutenant-Colonel, Corps of Engineers.

MILITARY STAFF.

Capt. WILBER E. WILDER, Fourth Cavalry, adjutant of the Military Academy, post adjutant, and recruiting officer, commanding band and detachment of field music.
Capt. WILLIAM F. SPURGIN, Twenty-first Infantry, treasurer of the Military Academy and quartermaster and commissary of cadets.
Capt. JOHN B. BELLINGER, assistant quartermaster, U. S. A., quartermaster of the Military Academy, post quartermaster, and disbursing officer.
First Lieut. BARRINGTON K. WEST, Sixth Cavalry, post commissary of subsistence and post treasurer, in charge of post exchange.
First Lieut. WILLIAM WEIGEL, Eleventh Infantry, assistant to post quartermaster and officer of police.
Maj. GEORGE H. TORNEY, surgeon, U. S. A., post surgeon.
Capt. CHARLES F. MASON, assistant surgeon, U. S. A.
Capt. CHARLES WILLCOX, assistant surgeon, U. S. A.

ACADEMIC STAFF.

Professors whose service at the Academy as professor exceeds ten years have the assimilated rank of colonel, and all other professors the assimilated rank of lieutenant-colonel.

DEPARTMENT OF NATURAL AND EXPERIMENTAL PHILOSOPHY.

Peter S. Michie, professor (14 Feb., 1871).
Capt. William B. Gordon, Ordnance Department, assistant professor.
First Lieut. Samuel E. Allen, Fifth Artillery; First Lieut. Lucien G. Berry, Fourth Artillery, instructors.
First Lieut. Samuel D. Freeman, Tenth Cavalry, in charge of observatory and astronomical observations.

DEPARTMENT OF DRAWING.

Charles W. Larned, professor (25 July, 1876).
First Lieut. Austin H. Brown, Fourth Infantry, assistant professor.
Second Lieut. Charles B. Hagadorn, Twenty-third Infantry; Second Lieut. Horace M. Reeve, Third Infantry, instructors.

DEPARTMENT OF MATHEMATICS.

Edgar W. Bass, professor (17 April, 1878).
Wright P. Edgerton, associate professor (1 July, 1893).
First Lieut. Daniel B. Devore, Twenty-third Infantry, assistant professor.
First Lieut. John D. Barrette, Third Artillery; First Lieut. Charles D. Palmer, Third Artillery; First Lieut. John S. Winn, First Cavalry; Second Lieut. William O. Johnson, Nineteenth Infantry; Second Lieut. Charles P. Echols, Corps of Engineers; Second Lieut. William M. Cruikshank, First Artillery; Second Lieut. John H. Rice, Third Cavalry, instructors.

† Associate professor with the rank of captain.

DEPARTMENT OF CHEMISTRY, MINERALOGY, AND GEOLOGY.

Samuel E. Tillman, professor (21 Dec., 1880).

First Lieut. Richmond P. Davis, Second Artillery, assistant professor.

First Lieut. Edgar Russel, Fifth Artillery; First Lieut. Albert M. D'Armit, Corps of Engineers; Second Lieut. Palmer E. Pierce, Sixth Infantry, instructors.

DEPARTMENT OF HISTORY, GEOGRAPHY, AND ETHICS.

William M. Postlethwaite, chaplain, professor (21 Dec., 1881).

First Lieut. Barrington K. West, Sixth Cavalry, assistant professor.

Second Lieut. Walter A. Bethel, Fourth Artillery, instructor.

DEPARTMENT OF CIVIL AND MILITARY ENGINEERING.

James Mercur, professor (29 Sept., 1884).

First Lieut. Henry C. Newcomer, Corps of Engineers, assistant professor.

First Lieut. Thomas H. Rees, Corps of Engineers; First Lieut. Francis R. Shunk, Corps of Engineers, instructors.

DEPARTMENT OF TACTICS.

Lieut. Col. Samuel M. Mills, captain, Fifth Artillery, commandant of cadets and instructor of tactics (1 Sept., 1892).

Capt. James Parker, Fourth Cavalry, senior instructor of cavalry tactics.

First Lieut. Alexander B. Dyer, Fourth Artillery, senior instructor of artillery tactics.

First Lieut. Granger Adams, Fifth Artillery, assistant instructor of tactics, commanding company of cadets.

First Lieut. Wilds P. Richardson, Eighth Infantry, assistant instructor of tactics, commanding company of cadets.

First Lieut. William H. Allaire, Twenty-third Infantry, assistant instructor of tactics, commanding company of cadets.

First Lieut. Willard A. Holbrook, Seventh Cavalry, assistant instructor of tactics, commanding company of cadets.

Second Lieut. Matthew C. Butler, jr., Fifth Cavalry, assistant instructor of cavalry tactics.

DEPARTMENT OF MODERN LANGUAGES.

Edward E. Wood, professor (1 Oct., 1892).

First Lieut. Cornélis DeW. Willcox, Second Artillery, assistant professor of the Spanish language.

First Lieut. Arthur F. Curtis, Second Artillery, assistant professor of the French language.

First Lieut. William S. Biddle, jr., Fourteenth Infantry; First Lieut. Peter E. Traub, First Cavalry; First Lieut. Marcus D. Cronin, Twenty-fifth Infantry; Second Lieut. Samuel C. Hazzard, First Artillery; Second Lieut. Edward B. Cassatt, Fourth Cavalry, instructors.

DEPARTMENT OF LAW.

George B. Davis, lieutenant-colonel and deputy judge advocate-general, U. S. A., professor (20 Aug., 1895). (By assignment under act 6 June, 1874.)

First Lieut. James A. Cole, Sixth Cavalry, assistant professor.

Second Lieut. Walter A. Bethel, Fourth Artillery, instructor.

DEPARTMENT OF PRACTICAL MILITARY ENGINEERING.

Capt. James L. Lusk, Corps of Engineers, instructor (31 March, 1893).

Second Lieut. Charles S. Bromwell, Corps of Engineers; Second Lieut. Jay J. Morrow, Corps of Engineers, assistant instructors.

DEPARTMENT OF ORDNANCE AND GUNNERY.

Capt. Lawrence L. Bruff, Ordnance Department, instructor (17 Aug., 1891).

First Lieut. Edwin B. Babbitt, Ordnance Department; Second Lieut. Henry D. Todd, jr., Third Artillery, assistant instructors.

Herman J. Koehler, master of the sword.

List of officers, with relative rank, at the United States Military Academy.

Names.	Corps or regiment.	On duty at Academy since—
<i>Colonels.</i>		
Ernst, Oswald H.	Corps of Engineers	Apr. 1, 1893
Michie, Peter S.	Professor (Feb. 14, 1871)	Apr. 23, 1897
Larned, Charles W.	Professor (July 25, 1876)	Aug. 28, 1874
Bass, Edgar W.	Professor (Apr. 17, 1878)	Sept. 15, 1876
Tillman, Samuel E.	Professor (Dec. 21, 1880)	Aug. 28, 1879
Postlethwaite, William M.	Professor (Dec. 21, 1881)	Jan. 6, 1882
Mercur, James.	Professor (Sept. 29, 1884)	Oct. 7, 1884
<i>Lieutenant-colonels.</i>		
Mills, Samuel M.	Captain, Fifth Artillery, commandant of cadets.	Sept. 1, 1892
Wood, Edward E.	Professor (Oct. 1, 1892)	Aug. 28, 1889
Davis, George B.	Professor (Aug. 20, 1895)	Aug. 20, 1895
<i>Major.</i>		
Torney, George H.	Surgeon, Medical Department	July 17, 1894
<i>Captains.</i>		
Spurgin, William F.	Twenty-first Infantry	Sept. 2, 1891
Lusk, James L.	Corps of Engineers	Mar. 31, 1893
Parker, James.	Fourth Cavalry	Aug. 13, 1894
Bruff, Lawrence L.	Ordnance Department	Aug. 17, 1891
Wilder, Wilber E.	Fourth Cavalry	May 15, 1895
Gordon, William B.	Ordnance Department	Aug. 20, 1894
Edgerton, Wright P.	Associate professor (Mar. 14, 1893)	Jan. 28, 1889
Mason, Charles F.	Assistant surgeon, Medical Department	July 16, 1894
Bellinger, John B.	Assistant quartermaster, Quartermaster's Department.	Sept. 17, 1894
Willecox, Charles.	Assistant surgeon, Medical Department	May 2, 1895
<i>First lieutenants.</i>		
Dyer, Alexander B.	Fourth Artillery	Aug. 31, 1892
Adams, Granger.	Fifth Artillery	July 15, 1895
Allen, Samuel E.	do.	Aug. 20, 1892
Newcomer, Henry C.	Corps of Engineers	Do.
Babbitt, Edwin B.	Ordnance Department	Aug. 28, 1890
Freeman, Samuel D.	Tenth Cavalry	June 30, 1893
Richardson, Wilds P.	Eighth Infantry	Feb. 10, 1892
Rees, Thomas H.	Corps of Engineers	Aug. 22, 1893
Allaire, William H.	Twenty-third Infantry	June 15, 1893
West, Barrington K.	Sixth Cavalry	Feb. 18, 1893
Shunk, Francis R.	Corps of Engineers	Aug. 20, 1895
Cole, James A.	Sixth Cavalry	Aug. 20, 1892
Willecox, Cornelis DeW.	Second Artillery	Do.
Curtis, Arthur F.	do.	Do.
Holbrook, Willard A.	Seventh Cavalry	Do.
Brown, Austin H.	Fourth Infantry	Feb. 9, 1892
Biddle, William S., jr.	Fourteenth Infantry	Aug. 21, 1892
Devore, Daniel B.	Twenty-third Infantry	Aug. 20, 1892
Barrette, John D.	Third Artillery	Do.
Berry, Lucien G.	Fourth Artillery	Do.
Traub, Peter E.	First Cavalry	Nov. 11, 1892
Davis, Richmond P.	Second Artillery	Aug. 17, 1891
Russel, Edgar.	Third Artillery	Aug. 22, 1893
Weigel, William.	Eleventh Infantry	Apr. 9, 1894
Cronin, Marcus D.	Twentieth Infantry	Aug. 22, 1893
D'Armit, Albert M.	Corps of Engineers	Aug. 20, 1895
Palmer, Charles D.	Fourth Artillery	Aug. 20, 1892
Winn, John S.	First Cavalry	Aug. 22, 1893
<i>Second lieutenants.</i>		
Butler, Matthew C., jr.	Fifth Cavalry	June 15, 1893
Hagadorn, Charles B.	Twenty-third Infantry	Aug. 20, 1894
Bethel, Walter A.	Fourth Artillery	Do.
Bronwell, Charles S.	Corps of Engineers	June 1, 1893
Johnson, William O.	Nineteenth Infantry	Aug. 20, 1894
Todd, Henry D., jr.	Third Artillery	Do.
Echols, Charles P.	Corps of Engineers	Aug. 20, 1895
Morrow, Jay J.	do.	Sept. 10, 1895
Pierce, Palmer E.	Sixth Infantry	Aug. 20, 1895
Reeve, Horace M.	Third Infantry	Do.
Cruikshank, William M.	First Artillery	Aug. 28, 1895
Rice, John H.	Third Cavalry	Aug. 20, 1895
Hazzard, Samuel C.	First Artillery	Do.
Cassatt, Edward B.	Fourth Cavalry	Do.

UNITED STATES MILITARY ACADEMY.

8

TROOPS.

Battalion of cadets.

Lieut. Col. Samuel M. Mills, captain, Fifth Artillery, commanding.
Company A, First Lieut. Wilds P. Richardson, Eighth Infantry, commanding.
Company B, First Lieut. William H. Allaire, Twenty-third Infantry, commanding.
Company C, First Lieut. Granger Adams, Fifth Artillery, commanding.
Company D, First Lieut. Willard A. Holbrook, Seventh Cavalry, commanding.

Hospital corps.

Maj. George H. Torney, surgeon, U. S. A., commanding.
Capt. Charles F. Mason, assistant surgeon, U. S. A.
Capt. Charles Wilcox, assistant surgeon, U. S. A.

United States Military Academy detachment of Army service men.

Capt. John B. Bellinger, assistant quartermaster, post quartermaster, commanding.
First Lieut. William Weigel, Eleventh Infantry.

Company E, battalion of engineers.

Capt. James L. Lusk, Corps of Engineers, commanding.
Second Lieut. Charles S. Bromwell, Corps of Engineers.
Second Lieut. Jay J. Morrow, Corps of Engineers.

United States Military Academy detachment of ordnance.

Capt. Lawrence L. Bruff, Ordnance Department, commanding.
First Lieut. Edwin B. Babbitt, Ordnance Department.

United States Military Academy detachment of cavalry.

Capt. James Parker, Fourth Cavalry, commanding.
Second Lieut. Matthew C. Butler, jr., Fifth Cavalry.

United States Military Academy band and detachment of field music.

Capt. Wilber E. Wilder, Fourth Cavalry, commanding.

HEADQUARTERS UNITED STATES MILITARY ACADEMY,
West Point, N. Y., September 13, 1895.

Official:

W. E. WILDER.

Captain Fourth Cavalry, Adjutant.

B.

CADET HOSPITAL,
West Point, N. Y., August 31, 1895

The ADJUTANT, UNITED STATES MILITARY ACADEMY.
West Point, N. Y.

SIR: In accordance with instructions, I have the honor to submit the following report of the work done in the medical department of the Military Academy for year ending June, 1895:

The statistical report of the sickness and mortality amongst the enlisted men the civilians living on the post and not connected with the families of the officer duty at the Academy, is shown in the following statement of Capt. Charles F. Mason, assistant surgeon, U. S. A.:

SOLDIERS' HOSPITAL,
West Point, N. Y., August 11, 1895

The POST SURGEON, UNITED STATES MILITARY ACADEMY.

SIR: In compliance with your verbal request, I have the honor to submit the following report of matters pertaining to that portion of the medical department of post under my immediate charge:

During the year the prevailing diseases have been la grippe and catarrhal conjunctivitis during the winter, and malarial fevers and diarrhea during the sum

and fall. In February four cases of diphtheria (one fatal) occurred in the family of Private Starr, Rugertown. It is believed that the infection was imported; no extension. In March one case of varicella occurred in the family of an enlisted man, and in May another case in the cavalry detachment; no extension.

The following is a summary of the work done in this department during the year:

	Enlisted men.	Civilians entitled to medical at- tendance.
Mean strength.....	333.52	443
Cases:		
Disease	372	
Injuries	160	
Total	532	1,149
Admission rate per 1,000 of mean strength.....	1595	
Constantly non-effective per 1,000 of mean strength.....	25.87	
Discharged for disability.....	6	
Number of sick daily.....	8.65	
Deaths	1	7
Recruits:		
Examined	118	
Accepted	85	
Vaccinations	8	75
Revaccinations	46	104
Births		19
Prescriptions compounded.....		4,028

Very respectfully, your obedient servant,

CHAS. F. MASON,
Captain and Assistant Surgeon, U. S. A., in charge of Soldiers' Hospital.

The mean strength of the command of that part of the post under my immediate charge was as follows:

Officers	52.80
Cadets.....	287.70
Civilians, officers' families, etc.....	210

The principal statistics of the sickness and mortality amongst the officers and cadets are shown in the subjoined statement of the number of medical and surgical cases treated during the year:

Officers	28
Cadets in hospital.....	692
Cadets in quarters, excused from some duty.....	3,316
Civilians and officers' families.....	726
Total cases treated.....	4,732
Births	5
Deaths (infant)	1

There were performed during the year 229 vaccinations and revaccinations. Six thousand one hundred and twenty-five prescriptions were compounded at the cadet hospital.

There was one mild case of varioloid, which represents all the admissions to the sick report for eruptive fevers.

Epidemic influenza made its appearance at the post in December, 1894, and prevailed until March. The disease was of a mild type.

Headaches, acute tonsilitis, and simple continued fever were the prevailing diseases amongst the corps of cadets during the year.

The card system of recording the physical and medical history of each member of the corps of cadets, introduced by the post surgeon in June, 1894, has been demonstrated a success, and the medical department can now furnish promptly all information regarding the physical status of a cadet that may be required by the Superintendent. In the physical examination of the graduating class of June, 1895, and in that of the first, second, and third classes now in the Academy, these records have proven of great utility and have facilitated very much the work of medical examining boards of June and August, 1895.

In connection with this report I have again respectfully to call the attention of the Superintendent to the urgent necessity for the construction of a modern oper-

ating room in the cadet hospital. In every well-conducted hospital a room that can be made absolutely clean and kept in an immaculate condition is designated as a surgical operating room, where all the details of modern surgical technology can be carried out in their entirety with a view to successful results in the work performed. There is no such room in the cadet hospital at West Point and in this respect it is deficient in its equipment, and it is not equal to other institutions of like character for the treatment of surgical cases.

Very respectfully, your obedient servant,

GEO. H. TORNEY,
Major and Surgeon, U. S. A., Post Surgeon.

C.

HEADQUARTERS UNITED STATES MILITARY ACADEMY,
OFFICE TREASURER, QUARTERMASTER AND COMMISSARY OF CADETS,
West Point, N. Y., August 26, 1895.

The ADJUTANT, UNITED STATES MILITARY ACADEMY,
West Point, N. Y.

SIR: I have the honor to submit the following relative to my duties as treasurer of the United States Military Academy, quartermaster and commissary of cadets, for the fiscal year ending June 30, 1895, referring to each duty under its heading:

TREASURER OF THE UNITED STATES MILITARY ACADEMY.

The business of the treasurer's office during the year necessitated the keeping of twenty-eight separate accounts. These accounts were all enumerated in my last annual report.

These accounts were regularly inspected every two months by an officer detailed for that duty, who reported the result of the same to the adjutant of the Academy.

The Hon. William F. Vilas, chairman of the subcommittee of the Board of Visitors on fiscal affairs, made, June 11, a close inspection of the manner of transacting the business of the treasurer's office and of keeping the accounts, and expressed himself as much pleased with the same.

The financial statement of the treasurer United States Military Academy, dated May 21, 1894, which was the last prior to the expiration of the fiscal year 1893-94, was as follows:

Assets.		Liabilities.	
Assistant treasurer.....	\$34 365. 82	Athletic association.....	\$93. 20
Cadet cash.....	75. 00	Cadet laundry.....	1, 575. 81
Dentist.....	110. 00	Cadet quartermaster.....	13, 048. 05
Hops and german.....	70 58	Cadet subsistence department.....	759. 83
Trust funds.....	20, 000. 00	Corps of cadets.....	9, 273. 67
Cash on hand.....	1, 364. 44	Deposits.....	704. 00
		Young Men's Christian Association.....	14. 68
		Equipment fund.....	30, 422. 00
		Dialectic society.....	80. 32
		Miscellaneous fund.....	14. 28
Total.....	55, 985. 84	Total.....	55, 985. 84

The following statement shows total receipts and disbursements under each account between date of statement above and statement of May 21, 1895, the last statement prior to the end of the last fiscal year:

No.		Disbursements.	Receipts.
1	Assistant treasurer.....	\$165,924.01	\$165,924.01
2	Athletic association.....	628.02	761.75
3	Balance paid.....	17,805.87	17,805.87
4	Barber.....	611.20	611.20
5	Cadet cash.....	14,530.36	14,530.36
6	Cadet hospital.....	2,721.43	2,721.43
7	Cadet laundry.....	9,820.05	9,903.34
8	Cadet quartermaster's department.....	75,310.76	73,148.64
9	Cadet subsistence department.....	57,380.41	56,975.73
10	Confectioner.....	133.50	133.50
11	Corps of cadets.....	195,251.79	194,596.17
12	Damages, ordnance.....	14.39	14.39
13	Dentist.....	1,000.00	1,005.00
14	Dancing.....	515.00	515.00
15	Deposits.....	17,782.04	17,178.04
16	Young Men's Christian Association.....	258.00	294.80
17	Dialectic society.....	500.00	578.69
18	Equipment fund.....	13,350.00	13,968.00
19	Expressage.....	17.62	17.62
20	Gas fund.....	1,239.96	1,239.96
21	Hops and german.....	1,589.40	1,659.98
22	Miscellaneous fund.....	19.00	43.27
23	Miscellaneous items.....	257.38	257.38
24	Oath.....	25.50	25.50
25	Paymaster.....	165,924.01	165,924.01
26	Periodicals.....	24.30	24.30
27	Photographs.....	49.00	49.00
28	Policing barracks.....	5,388.17	5,388.17

The foregoing explains itself and shows the purposes for which the pay of the cadet is expended.

The following statement, dated May 21, 1895, was the last prior to the expiration of the fiscal year 1894-95:

Assets.		Liabilities.	
Assistant treasurer.....	\$32,130.83	Athletic association.....	\$225.93
Cadet cash.....	19.50	Cadet hospital.....	272.66
Dentist.....	115.00	Cadet laundry.....	1,749.10
Bonds.....	20,000.00	Cadet quartermaster.....	10,885.93
Cash on hand.....	1,176.64	Cadet subsistence department.....	355.15
		Corps of cadets.....	8,618.05
		Equipment fund.....	31,040.00
		Deposits.....	100.00
		Young Men's Christian Association.....	50.49
		Dialectic society.....	149.92
		Miscellaneous fund.....	33.74
Total.....	53,441.97	Total.....	53,441.97

The members of the furlough class this year received such sums as were due them on a close approximate settlement of their accounts to July 31.

In a few special cases this amount was slightly exceeded. The members of the class on returning to the Academy August 28 will have, with the noted exceptions, pay to their credit from August 1, which will be an increase of one-half a month's pay more than the furlough class has usually had to its credit on returning from leave. This increase of credit will be of great assistance in procuring necessary articles which the furlough men habitually deny themselves before going on leave, and will enable the class to become free from debt earlier than usual during the last half of the course, and should correspondingly increase the sum due to each on graduation.

The class entering this year deposited on an average \$95.50.

In my last report I informed you that ex-Cadet Urtecho, of Nicaragua, left the Academy indebted to it in the sum of \$152.34. No part of this sum has as yet been paid.

CADET QUARTERMASTER'S DEPARTMENT.

During the year the following articles of clothing were manufactured, viz:

Dress coats.....	217	Officers' blouses.....	16
Overcoats.....	61	Civilians' coats.....	5
Blouses.....	432	Civilians' vests.....	6
White jackets.....	203	Civilians' trousers.....	11
Gray trousers.....	506	Officer's overcoat.....	1
White trousers.....	915	Officer's dress coat.....	1
Flannel trousers.....	77	Officer's cape.....	1
Riding trousers.....	77	Civilians' duck trousers.....	2
Officers' trousers.....	50	Waiters' white jackets.....	38

The following articles were repaired during the year, viz:

Dress coats.....	365	Trousers, civilian.....	62
Overcoats.....	263	Officers' capes.....	18
Blouses.....	672	Waiter jackets.....	30
White jackets.....	19	Socks, tags sewed on (pairs).....	1, 297
Gray trousers.....	866	Gloves.....	165
White trousers.....	1, 415	Crape, sewed on (pieces).....	20
Coats, civilian.....	62	Chevrons sewed on.....	300
Vests, civilian.....	62	Shoes.....	1, 626

The cadet quartermaster's department building is in a good state of repair and is well adapted to the business of the department. The working force is competent, and at no time during the past fourteen years have cadets received better-fitting clothing than at the present time.

CADET SUBSISTENCE DEPARTMENT.

The condition of the cadet mess is very satisfactory. Owing to the completion of a new tile floor and wainscoting, the odor which was formerly coexistent with the wood floor has disappeared and the labor of keeping the mess hall in a cleanly condition is diminished.

The average daily cost of subsistence per cadet during the year was 50.52 cents, as against 51.86 cents during the fiscal year ended June 30, 1894, a diminution in cost of 1.34 cents per cadet per day. The price of beef has risen greatly, and the cost of subsistence during the current fiscal year will therefore be greater. During the year, under the belief that the roast beef would prove more satisfactory should it be carved on the cadets' table by one of their number, the plan of sending to the table the roast whole instead of carving it up in the kitchen was adopted. Such a plan requires more beef, but at the same time it gives better satisfaction, and the plan of sending in whole roasts for each table will be adhered to.

I have reason to believe that the cadets are well satisfied with their mess, and since this result is obtained at a cost of less than 51 cents per day it is a matter of congratulation.

A training table was maintained during the football season last fall on common-sense lines. Those at the table had plenty of substantial food such as the other cadets had, but they had less variety and indulged less in desserts.

The room in which the meats and ice are kept, called through courtesy the refrigerator, is located next to the kitchen and is influenced to a greater or less extent by the heat of the cooking range.

There is needed a refrigerating room located elsewhere than at present, and one of greater capacity. I will in due time submit an estimate for the equipment of such an one.

The cooking range now in use has been there many years and it is so old that it must needs be constantly repaired. An estimate for a new one has been submitted.

The basement area in front of the mess building is in bad condition and requires attention.

CADET LAUNDRY.

The following exhibits the work done at the laundry during the year, excepting for the cadet hospital:

Bathing suits.....	20	Jackets, white	3,665
Belts, shoulder.....	17,147	Pillowcases	13,912
Belts, sword.....	2,266	Sheets	23,791
Belts, waist.....	18,912	Shirts, white.....	20,892
Blankets, single.....	323	Shirts, night.....	12,306
Blouses	17	Shirts, under.....	39,574
Clothes bags.....	3,589	Socks, pairs.....	39,400
Collars.....	96,153	Towels.....	69,901
Comfortables.....	143	Trousers, gray.....	126
Cuffs, pairs.....	56,392½	Trousers, white.....	38,545
Drawers	36,143		
Gloves, pairs	33,836½	Total pieces.....	595,027
Handkerchiefs	67,923		

There were laundered for the cadet hospital the following:

Bedspreads.....	172	Sheets	2,367
Blankets, single.....	2	Tablecloths	244
Mattress covers.....	10	Towels.....	2,880
Napkins.....	1,284		
Pillowcases	1,963	Total pieces.....	8,922

Grand total, 603,949 pieces.
No account is kept of the cadet mess linen.
Very respectfully, your obedient servant,

WM. F. SPURGIN,
*Captain Twenty-first Infantry, Treasurer United States Military Academy,
Quartermaster and Commissary of Cadets.*

D.

WEST POINT, N. Y., August 6, 1895.

The ADJUTANT, UNITED STATES MILITARY ACADEMY.

SIR: In accordance with instructions I have the honor to submit the following report of the principal operations in the department of ordnance and gunnery at the United States Military Academy during the fiscal year ended June 30, 1895:

LABORATORY.

The routine work at the laboratory includes the care and preservation of three light batteries, the seacoast battery, and Battery Knox, and the siege and mortar batteries. The guns and carriages belonging to these batteries have been painted, lacquered, and kept in repair during the year. The care of the new steel guns requires much time and attention.

The batteries are inspected once a week, and it is generally found that the guns require cleaning and oiling at each inspection. After the drill season is over the field batteries are dismounted, the carriages overhauled and painted, and the guns and their breech mechanism thoroughly cleaned and oiled. This same course has been pursued with the breech mechanism of the 12-inch B. L. mortar, cast iron, steel hooped, but during the year penthouses have been supplied to cover the new 8-inch steel B. L. rifle and 12-inch steel mortar, and it is believed that the dismounting of the mechanism will not be necessary in the future, and a regular and careful inspection only will be required. There are also 5 rapid-fire and 4 machine guns which require constant attention.

Sample boards showing the manufacture of modern small caliber cartridges have been prepared for use in cadet instruction, the materials having been obtained from Frankford Arsenal, and the work of mounting them done here. The same has been done for fuses, primers, etc.

The routine work also includes the preparation of ammunition for cadet target practice and attendance upon the same, and also the care and repairs of the implements used in mechanical maneuvers, repairs of cadet arms and equipments, the care and preservation of the trophy guns and their arrangement. Part of the skids

supporting these guns have been repaired and supported on stone laid in cement, and preparations have been made to continue this work.

A new oil room has been arranged at the laboratory and all the oil stored in it, which will avoid danger and render the oil more accessible.

Speaking tubes have been put in, connecting the instrument and firing houses and facilitating work.

A room has been fitted up for the storage of sponges and rammers, handspikes, empty powder cases, and other implements belonging to the new guns at the post.

A new water-closet has been put in to replace the old one, which was in such bad condition that it was unfit for use.

A model-shaping machine has been made for use in cadet instruction, and work on a new model lathe is now in progress.

The preparation of drawings for the new text-book of ordnance and gunnery, approved by the academic board, has been in progress during the year. Cuts for eight chapters have been finished and are now in the hands of the printer. Cuts for the remaining two chapters are in progress. Six chapters of the book have been published in pamphlet form, and will be used by the present first class for the course from September to January and for part of the course from January to June.

MUSEUM.

The room in the new academic building for the ordnance museum became available during the year, and work was begun on the stores belonging to the collection. This has involved a great deal of time and labor, as the stores have been packed away in various places during the three years past, and it was impossible to clean them while in that condition. These stores have all been removed to the museum, cleaned and partly arranged, and stands and cases made for them. This work is still in progress. The battle and trophy flags have been overhauled and repaired as far as possible. In many cases it was found necessary to procure new staves for them, as those originally belonging to them had disappeared. These flags will now be placed permanently in handsome cases in the museum.

Many of the models belonging to the museum need repairs, and the work on them will be continued as long as funds are available.

The model Mexican silver mine presented to the Academy by the officers of the army in Mexico is now being repaired, and it is believed that it can be restored to its original condition, with the exception of some figures which are lost.

Several old model machine guns belonging to the museum have been repaired during the winter and put in working order, and are now arranged on stands for exhibition.

ADDITIONS TO ARMAMENT.

The principal work during the fiscal year has been at the seacoast battery.

A 15-inch Rodman gun and its carriage, the 13-inch smoothbore mortar and its carriage, and one 10-inch Rodman smoothbore and one 200-pound Parrott, with their carriages, have been dismounted and removed from the battery, and also one center pintle 8-inch barbette carriage.

These guns and carriages have been replaced by one 8-inch steel B. L. rifle and carriage, and one 12-inch steel B. L. mortar and carriage, and two 8-inch converted rifles on front pintle barbette carriages. The center pintle barbette carriage has been replaced by a front pintle one. All these guns and carriages are of the latest design, and the seacoast battery is now well equipped.

These changes have necessitated corresponding ones in the platforms, traverse circles, and shot beds, and this latter work has been done under the direction of the instructor of practical military engineering.

Two new 5-inch steel B. L. siege guns, with their carriages, have been received during the year, and are now in the siege battery. The carriages lack hydraulic buffers, which will be forwarded later, as soon as they can be finished.

Two penthouses for the 8-inch steel B. L. rifle and the 12-inch mortar have been received, and were in use last winter.

One 6-pounder Driggs-Schroeder R. F. gun, with carriage and limber, and 75 rounds of ammunition were sent by the manufacturers, although the money for the payment of the gun was not available till July 1, 1895. The Department has now on hand a very good collection of rapid-fire guns, and with the addition of the Maxim it will include all the types taught in the course.

The Ordnance Department has also furnished 1 Gatling gun, caliber .30, model 93, using smokeless-powder ammunition, and with the latest improved feed. A carriage has been ordered for this gun, and when received the gun will be available for cadet instruction.

SMALL ARMS.

The following small arms have been received during the year:

- 6 .30-caliber rifles, United States, with a supply of ammunition.
- 1 new model English rifle.
- 1 new model Belgian rifle.
- 1 new model Russian rifle.

These foreign guns were obtained through the kindness of the military attachés at the embassies of the respective countries, and each one is accompanied with ammunition, and these arms will prove a valuable addition to the museum and for cadet instruction. Efforts will be made to procure samples of all foreign arms, as far as funds will permit.

MODELS.

The following models have been received during the year:

- 1 model 3.6-inch steel B. L. field gun, one-tenth size.
- 1 model 3.6-inch steel B. L. field gun, breech mechanism, one-half size.
- 1 model 7-inch steel B. L. howitzer, complete, one-tenth size.
- 1 model 8-inch steel B. L. rifle, complete, one-tenth size.
- 1 model 12-inch steel B. L. rifle, complete, one-tenth size.
- 1 model 7-inch steel B. L. mortar, complete, one-tenth size.
- 1 model 10-inch barbette carriage, complete, one-tenth size.
- 1 model 3.2-inch B. L. field carriage and limber, with horses and harness, complete, one-tenth size.

The department has now working models of all the service field, siege, and seacoast guns and mortars, one-tenth size, and also of the 10-inch and 3.2-inch carriages, complete. Work is now progressing on a model 8-inch Buffington-Crozier disappearing carriage, and it is hoped that during the year the siege carriage models will be completed.

It is the intention of the department to ask each year for funds to continue the work on the model carriages till a complete set of them is obtained. These models are of the greatest advantage in the instruction of cadets.

RECOMMENDATIONS.

In my judgment the target practice with 8-inch converted rifles at the seacoast battery can not be continued much longer without danger. The target originally established was against the face of a rock on Cro' Nest. In the course of firing, this rock has been broken, and the broken rock has formed a slope.

Each time that the target has been repainted on the rock it has been necessary to move it higher to clear this slope of broken rock. It has now nearly reached the upper edge of the face of the rock, and a projectile striking high is liable to pass over this edge and strike on the irregular surface above. Its curve after such striking is a matter of chance, and it may cause serious damage. A butt or tunnel should be provided to guard against accident.

Very respectfully, your obedient servant,

L. L. BRUFF,
Captain Ordnance Department, U. S. A., Instructor of Ordnance and Gunnery.

E.

DEPARTMENT OF PRACTICAL MILITARY ENGINEERING.

UNITED STATES MILITARY ACADEMY.

West Point, N. Y., September 2, 1895.

The ADJUTANT, UNITED STATES MILITARY ACADEMY,

West Point, N. Y.

SIR: I have the honor to report as follows upon the different branches of work assigned to me for the year from September 1, 1894, to August 31, 1895:

PRACTICAL MILITARY ENGINEERING.

During October, 1894, and April, 1895, the classes of 1895 and 1896 were under instruction, and during July and August, 1895, the classes of 1896 and 1898, with a few members of the class of 1897.

The class of 1895 received instruction in construction of bridge by successive pontoons, fascines, hurdles, iron and brush gabions, gabion and sandbag revetments,

wire entanglement, simple trench (one-sixth size and full size), flying sap (one-sixth size and full size), various shelter trenches, Russian gun pit, telegraphy, profile, deep sap, full sap (kneeling), making palisading and planting it vertically inclined, various gun and mortar platforms, and mounted reconnoissance.

The class of 1896 received instruction in school of the boat, making knots, lashings, construction of bridge by successive pontoons, assembling and launching canvas pontoons, construction of trestle bridge on land, construction of spar bridge, construction of fascines, hurdles, iron and brush gabions, fascine and gabion revetments, blindages, abatis, wire entanglement, simple trench (one-sixth scale), flying sap (one-sixth scale), various shelter trenches, Russian gun pit, gun epaulment for breech-loading and muzzle-loading guns, signaling with flag, heliograph, telegraph, profiling, utilization of ground and stone walls for defense, and use of explosives.

Four members of the class of 1897 attended instruction with the class of 1896 during last July and August.

The class of 1898 received instruction in school of the boat, construction of bridge by successive pontoons, assembling and launching canvas pontoons, construction of trestle bridge on land, fascine and gabion revetments, signaling with flag and heliograph, utilization of ground and stone walls for defense, and use of explosives.

COMPANY E, BATTALION OF ENGINEERS.

This company has furnished throughout the year a daily guard detail of from 8 to 12 men; has kept its barrack and barrack ground in repair and police; cultivated its garden; kept the two pontoon trains and the cadet boats in repair; completed one new pontoon boat and partially finished one, and has kept the seacoast siege, and mortar batteries, with Fort Clinton and Battery Knox, in order. It assisted in the instruction of the cadets in practical military engineering, prepared the bridge and siege material, and has furnished field parties for the surveys in connection with the extension of the waterworks.

The main stairway in the hall of the company barrack has recently shown signs of weakness. It has been temporarily braced and an estimate submitted for rebuilding it.

The detail for submarine mining at Willets Point resulted in the instruction of 1 sergeant and 4 corporals during the year.

The company is now 12 men below its allotted strength and recruiting is slow and difficult. No desertions occurred during the year. The physical condition continued excellent and the discipline of the company good.

The new magazine rifles, caliber .30, have been received and issued to the men, instruction in the new manual of arms is in progress. It is expected that the men will be sufficiently well instructed to permit the guard detail to turn out with the new weapon not later than next Sunday, the 8th instant.

Attention is invited to the accompanying table, which contains a résumé of the company's duties by months.

WATER SUPPLY AND PIPE LINE.

Water was drawn from Round Pond continuously from June 27 to September 14, 1894. At the latter date a stage of 9.2 feet was reached, the lowest record since 1886.

The pond filled to the overflow line (18 feet) on April 9, 1895.

On June 22, 1895, drawing from Round Pond was again resorted to and has continued, with some slight cessations, due to flow at the Cascades and in Croton Pond Brook. The stage of water at Round Pond is at this date about 14.5 feet, a gain of 2.9 feet over last year and corresponding to nearly one month's supply for the post. The rainfall for the month of July, 1895, was very favorable to the water supply.

The pipe line has continued to render good service with very slight repairs.

The series of leaks in the vicinity of the powder magazine and the soldiers' hospital has finally been checked, with material benefit to the reserve volume of water.

NEW RESERVOIR.

The actual laying of masonry on the main dam began November 13, 1894, and stopped on account of the weather December 21, 1894, at which time the work was nearly all up to the elevation of 290. Work was again resumed on April 10, 1895, and the masonry is at this date completed to the elevation of about 311. The endeavor to secure good foundations and end connections has been long and costly, due to the presence of irregular areas of decayed rock in the bottom and to the shattered condition of the old dam.

tion of the abutments, the latter being the result of old quarrying operations. The amounts of excavation and masonry are thus largely increased over the estimates, an unfavorable feature, only partly offset by care and economy at every point. Present indications are to the effect that the main dam will be practically completed by December 1, 1895. Further study of the conditions prevailing at the north end of the reservoir has indicated the desirability of putting in a masonry core wall, in connection with the low earthen dam required.

The actual flooding of the swamp both last winter and this summer, proved conclusively that it will not be prudent to omit cleaning out the peaty matter, as well as the soil and vegetation.

FILTRATION.

This question has been carefully examined, and I have concluded that in order to secure the best results the water from all sources should be filtered for at least five months of the year. The existing filter is entirely too small and is wrongly located for service with the new reservoir, as it would require a great loss of useful pressure. I have therefore submitted an estimate for filters of adequate size, of the Kirkwood type, to be located south of the new dam. These filters are intended to be covered so as to admit of their being used when necessary in winter. Such use may not always be required, but may be advisable at times. The committee on hygiene and athletics of the Board of Visitors for 1895 took strong ground in favor of an adequate filtration of the entire supply.

NEW SUPPLY MAIN.

The Board of Visitors of 1894 strongly urged the laying of a main of sufficient size from the new reservoir to the post, capable of affording a direct connection to the fire hydrants, in case of fire. Estimates were submitted at the request of the Board and, with some modifications shown to be advisable, have been included in my estimates for this year. The route of this main is southward from the new dam, and by way of the back road to near the new south gate, thence northward along the main road to a connection with a main now under construction opposite the new academy building.

CONNECTING MAIN.

Work on this line of pipe, intended to connect the new reservoir with the Round Pond, Cro' Nest Pond, and Delafield Pond pipe lines and with the filter house, was commenced in the latter part of last June. The work of preparing a bed for the pipe is heavy, involving much blasting and the building of a long line of retaining wall. The pipe is on hand and will be laid as soon as possible. Lieut. Charles S. Brownwell, Corps of Engineers, has been almost constantly engaged on this work and that at the new reservoir, with excellent results.

The estimates submitted this year embrace the most important and costly portions of work yet remaining to be done on the water supply. Certain other improvements are advisable, but have been omitted this year as not being especially urgent. They are as follows: The diversion of Sinclair Pond Brook into Cro' Nest Pond Brook; the extension of the Cro' Nest Pond pipe line for about one-fourth of a mile; the building of a small dam on Cro' Nest Pond Brook to throw the water into the pipe line under a greater head than is now possible; certain slight improvements at the Cascades intake; cleaning Delafield Pond and repairing the dam; cleaning a portion of Round Pond; fencing certain ponds and portions of the watersheds; laying a 10 or 12 inch main from Cro' Nest Ridge to the new reservoir, and building a keeper's house near the new reservoir. It is thought best to postpone submitting estimates for these improvements rather than to present an unduly large aggregate.

PLATFORMS.

A platform for the new 8-inch rifle and one for the new 12-inch breech-loading mortar were completed early last summer, as were three front-pintle platforms changed from center-pintle platforms of an old type. This work was well done by Lieut. Mason M. Patrick, Corps of Engineers, who had it in direct charge.

NEW ACADEMIC BUILDING.

For all practical purposes this building was completed early during the summer of 1895.

BATTLE MONUMENT.

Practically no work has been done upon this structure during the year under consideration.

The shaft was somewhat injured by lightning early last July.

Very respectfully,

JAS. S. LUSK,
Captain, Corps of Engineers, Instructor Practical Military Engineering,
Commanding Company E, Battalion of Engineers,
In Charge of Water Supply at West Point, N. Y.

	1894.				1895.							
	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.
Average strength of company.....	94	96	96	94	94	98	97	95	93	93	91	90
Average strength of guard detail	12	12	12	12	12	12	12	10	12	12	12	12
Fatigue days	25	27	26	28	27	24	26	26	27	25	27	27
Infantry drills.....	12	4	1	4	4	4	5	3	3	3	12	8
Signal drills	12	4	1	4	4	3	5	4	3	3	12	7
Engineering drills.....	8	2	1	3	3	3	3	4	2	2	6	11
Gymnasium drills	12	4	1	7	7	6	8	7	5	5	6	1
Practice marches.....	0	0	0	0	0	0	0	0	0	0	0	0
Average attendance at drills	54	51	48	45	39	47	43	41	32	40	42	43
Target practice, days...	0	0	0	0	0	0	0	0	0	0	0	0
School days.....	0	0	21	21	17	19	21	21	0	0	0	0
Average attendance at school	0	0	28	29	19	24	25	21	0	0	0	0

F.

QUARTERMASTER'S OFFICE, UNITED STATES MILITARY ACADEMY,
West Point, N. Y., August 31, 1895.

The ADJUTANT, UNITED STATES MILITARY ACADEMY.
West Point, N. Y.

SIR: I have the honor to submit herewith the following report of the operations of the quartermaster's department at West Point, N. Y., for the fiscal year ended June 30, 1895, prepared in accordance with instructions from your office, dated June 6, 1895:

QUARTERMASTER'S DEPARTMENT, UNITED STATES ARMY.

The duties pertaining to this department are enumerated in paragraph 1063, Army Regulations, 1889. The amounts received, disbursed, etc., under the various heads of appropriation are shown in accompanying statement, marked A.

The following contracts for furnishing fuel, forage, and straw were entered into and were satisfactorily fulfilled:

- Samuel G. French: 500 tons stove coal, 250 tons egg coal, 200 tons chestnut coal.
- Charles Dunlop: 500 tons stove coal, 250 tons egg coal, 200 tons chestnut coal.
- William Lewis: 200 cords hard wood.
- Thomas Sheppard: 400 tons hay.
- Charles L. Rickerson: 95 tons straw.
- John Moonan: 10 tons middlings, 20 tons shorts.
- William E. Pante: 600,000 pounds oats.

The present number of draft animals authorized for the quartermaster's department at this post is insufficient to meet demands, and an increase of from 40 to 45 is considered necessary.

QUARTERMASTER'S DEPARTMENT OF THE UNITED STATES MILITARY ACADEMY.

My duties in this branch are defined in paragraph 15 of the United States Military Academy Regulations, 1894.

Contracts entered into during the year and made in previous years and remaining in force in the fiscal year to which this report relates were as follows:

No	Contractor	Date	Purpose
1	J. E. & A. L. Pennock	May 18 1891	Academy building
2	Wm. McMeekin	Oct. 26, 1893	One set officers quarters
3	Thomas J. Gilroy	Apr. 2 1894	Two set hospital steward's quarters
4	do	June 26 1894	Unmarried officers quarters
5	Saunders & French	Aug. 23 1894	3,300 tons coal
6	Westmoreland Coal Co	Aug. 14 1894	200 tons gas coal
7	I. M. Campbell	Sept. 24, 1894	Steam heating apparatus, quarters 29
8	do	Sept. 29 1894	Gas fixtures edg. near barracks
9	Muller Bros.	Oct. 1 1894	Reflooring edg. near barracks
10	George L. Kleitz	Oct. 6 1894	Repairing solder on hospital
11	Ingrue Paving and Construction Co	Oct. 24 1894	Pavement around gymnasium
12	Franklin & Buchanan	Nov. 14 1894	Steam heating apparatus quarters 35 45
13	Sharpless & Watts	Jan. 9 1895	Reflooring in cadet hospital
14	Kuge & Kusinski & Co	Mar. 26 1895	Gas fixtures Academy building
15	J. H. Fox	May 21 1895	Gas gas pump
16	Davis Ford & Alexander	May 25 1895	Installation of radiators
17	Warren Foundry and Machine Co	June 11 1895	6 in. water pipe
18	Westmoreland Coal Co	June 27 1895	1700 tons gas coal
19	Clark & Williams	June 20, 1895	200 cordshard wood 20 cords soft pine
20	McKee & Eddy	June 28 1895	4 600 tons coal

Nos. 4, 15, 16, 17, 18, 19, and 20 were incomplete at the close of the year.

The following public buildings were repaired in accordance with special appropriations therefor from the general appropriation for repairs and improvements.

The barracks of Company L, battalion of engineers, the soldiers' hospital, the post bakery, ordnance laboratory, cadet barracks, hotel ~~residence~~ building finished and furnished, chapel renovated within, repointed, roof and corners repaired and painted, riding hall roof repainted, windows and outside galleries repaired, cavalry stables painted, mangers removed and covered way from stable to riding hall built, cadet hospital, piles of old dock drawn south road repaired as far as appropriation permitted. The officers' quarters all received such necessary repairs as could be done with the small appropriation.

There is a great lack of storehouse room, necessitating the use for such of a dilapidated frame building which was built for an ox stable about 1867. The south wharf is dangerous, and it is doubtful whether it will last another year. At present the landing raise the northeast end several feet on coming in contact with the wharf.

Much damage has been done to buildings and grounds by storms since July 1, 1895. The appropriation for repairs and improvements and buildings and grounds should be increased to repair same without causing a drain on regular allowances to cover such unforeseen contingencies.

Final settlement has been effected with John Sheehan, contractor, for the gymnasium, payment being made him of the balance remaining after completing the building at his expense.

Statement of the receipts and disbursements for the fiscal year ended June 30, 1895, accompanies this report, marked B.

GAS WORKS, UNITED STATES MILITARY ACADEMY

As director of the gas works I am charged with providing the necessary illuminating gas for the needs of the post. In order to properly light the buildings and grounds of the Academy Congress appropriated for the last fiscal year the sum of \$5 000 for the purchase of gas coal, oil, candles, lanterns, matches, lamps, and working for lighting the Academy, chapel, library, cadet barracks, mess hall, store, hospital, offices, stables and riding hall, sidewalks, camp and wharves. As the gas consumed costs more than the amount appropriated, I, that which is consumed at places not enumerated in the act is sold at actual cost of manufacture with a small increase for contingencies which includes a portion of the deficiency above named, and also provides for contingent repairs which experience has shown to be necessary from time to time. The remainder of the deficiency is charged to cash, who pay for gas at the rate of 35 cents per month for the time they are actually present. The cost of gas as above, of coke, coal tar, etc., constitutes a fund known as the "contingent fund," which is expended under the direction of the Superintendent of the Academy in the purchase of additional gas coal when necessary, repairs, gas fixtures, and repairs of same, pay of labor employed in making gas, and such other expenditures as pertain to the gas making plant of the Academy.

The receipts and disbursements are shown in the statement of the contingent fund herewith, marked C.

UNITED STATES MILITARY ACADEMY.

SPECIAL CONTINGENT FUND, UNITED STATES MILITARY ACADEMY.

This fund is derived from the rent of certain buildings on the post and from sales of gas, coke, coal tar, etc.

Statement of the receipts and disbursements under this head accompanying this report and is marked C.

Respectfully submitted.

J. B. BELLINGER,
*Captain and Assistant Quartermaster, United States Army,
 Disbursing Officer, United States Military Academy.*

A.—Statement of funds pertaining to the Quartermaster's Department, United States Military Academy, for the fiscal year ended June 30, 1895.

Balance on hand July 1, 1894.....	\$5
Received since:	
Regular supplies.....	25
Incidental expenses.....	10
Army transportation.....	4
Barracks and quarters.....	
Clothing and equipage.....	
Sales to officers.....	4
Sales at auction.....	
	<hr/>
Total to be accounted for.....	49
	<hr/>
Disbursed:	
Regular supplies.....	25
Incidental expenses.....	10
Army transportation.....	4
Barracks and quarters.....	
Clothing and equipage.....	
Deposited.....	5
Balance on hand June 30, 1895.....	1
	<hr/>
Total	49
August 31, 1895.	

B.—Statement showing receipts and disbursements, etc., of funds pertaining to the appropriations for the support of the United States Military Academy for the year ending June 30, 1895.

Date.		Current and ordi- nary ex- penses.	Miscel- laneous items and in- cidental ex- penses.	Buildings and grounds.	New academic building.	New gymna- sium.	Memo- rial Hall.	Total.
	Cr. By balance on hand, fiscal year—							
July 1, 1894	1889.....				\$23,684.58	\$7,001.97		\$30,776.55
Do.....	1892.....	\$952.06	\$90.08					1,042.14
Do.....	1893.....	5,681.96	140.80	\$4,095.40				9,918.16
Do.....	1893-94.....	243.00		1,253.30				1,496.30
Do.....	1894.....	14,387.56	2,733.67	32,442.94				49,564.17
	Received since fiscal year—							
June 30, 1895	1889.....				188,220.19			188,220.19
Do.....	1894.....			14,065.60				14,065.60
Do.....	1895.....	73,094.10	27,540.00	72,672.70				173,306.80
Do.....	1895-96.....	600.00		21,321.30				21,921.30
Do.....	Memorial Hall.....						\$5,000.00	5,000.00
	Total	94,958.68	30,504.55	145,851.33	211,904.77	7,091.97	5,000.00	495,311.30
	Dr. Disbursed, fiscal year—							
Do.....	1889.....				152,849.57	7,080.00		159,929.57
Do.....	1892.....	893.47						893.47
Do.....	1893.....	2,922.27		3,010.37				5,932.64
Do.....	1893-94.....	243.00		1,253.21				1,496.21
Do.....	1894.....	9,531.37	2,680.52	34,989.43				47,201.32
Do.....	1895.....	56,230.06	22,263.50	51,722.12				130,215.68
Do.....	1895-96.....			13,196.81				13,196.81
	Deposited, fiscal year—							
Do.....	1889.....					11.37		11.37
Do.....	1892.....	58.59	90.08					148.67
Do.....	1893.....	2,759.69	140.80	485.03				3,385.52
Do.....	1893-94.....			.00				.00
Do.....	1894.....			8,000.00				8,000.00
	Balance on hand, fiscal year—							
Do.....	1889.....				59,055.20			59,055.20
Do.....	1894.....	4,856.19	53.15	3,519.20				8,428.54
Do.....	1895.....	16,864.04	5,276.50	20,950.58				43,091.12
Do.....	1895-96.....	600.00		8,124.40				8,724.40
Do.....	Memorial Hall.....						5,000.00	5,000.00
	Total	94,958.68	30,504.55	145,851.33	211,904.77	7,091.97	5,000.00	495,311.30

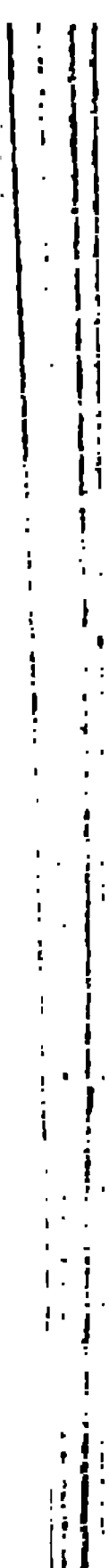
UNITED STATES MILITARY ACADEMY.

C.—Statement of receipts and expenditures pertaining to the special contingent United States Military Academy, from July 1, 1894, to June 30, 1895.

	Gas works.	Rents, etc.
On hand July 1, 1894.....	\$2,322.05	\$133.91
Received since:		
By rent of—		
West Point Hotel.....		2,000.00
Post-office.....		150.00
Stables.....		75.00
Store (retiring house).....		350.00
By sale of—		
Gas.....	4,825.00	
Coke.....	1,278.56	
Coal tar.....	420.65	
Old iron, copper, etc.....		241.66
Ice.....		138.83
	6,524.21	2,955.49
Total to be accounted for.....		
Disbursed.....	6,722.97	2,219.79
On hand June 30, 1895.....	2,182.72	810.18
Total to be accounted for.....		

WEST POINT, N. Y., August 31, 1895.

**FIFTH REPORT OF THE BOARD OF ORDNANCE
AND FORTIFICATION.**



REPORT OF THE BOARD OF ORDNANCE AND FORTIFICATION.

WAR DEPARTMENT,
Washington, D. C., October 31, 1895.

The SECRETARY OF WAR.

SIR: In compliance with the provisions of the act approved February 24, 1891, the Board of Ordnance and Fortification has the honor to submit for transmission to Congress its annual report for the year ending October 31, 1895, as follows:

PERSONNEL.

A number of changes in the personnel of the Board have occurred during the year.

By his retirement from active duty Lieut. Gen. J. M. Schofield, the president of the Board since its organization in 1888, ceased to be a member of the Board September 29, 1895, and Maj. Gen. Nelson A. Miles succeeded him as presiding officer.

The following action was taken by the Board at the last meeting at which General Schofield presided:

WASHINGTON, *September 24, 1895.*

As this is the last meeting of the Board at which Lieut. Gen. J. M. Schofield will preside, on account of his retirement from active service, his colleagues desire to formally record the regret they feel at this official parting.

General Schofield has been the president of the Board since its organization, and has guided its decisions with skill and uniform courtesy. He has assisted in the development of a formidable system of national defense, and the Board rejoices that his labors in this and other fields have received proper recognition from the Congress and President of the United States. The Board congratulates General Schofield upon his retirement with a rank but three times before achieved in the history of our Army, and desires to express the hope that he may long enjoy his well-earned release from the cares of public office.

From the same cause the representative of the Engineer Corps, Bvt. Brig. Gen. Henry L. Abbot, who was also one of the original members of the Board, gave place to Col. P. C. Hains, Corps of Engineers, August 13, 1895. At the meeting of August 7, 1895, the following action was taken:

This being the last meeting of the Board at which General Abbot will be a member, owing to his approaching retirement, the other members wish to place on record the fact that they regard his departure from its counsels as an almost irreparable loss to the Board and to the service. General Abbot has been a member of the Board since its organization and has contributed probably as much as any officer in the Army to the development of a system of defense for the United States. General Abbot carries with him into his honorable retirement the grateful esteem and best wishes of his colleagues.

Col. Henry W. Closson, representing the artillery branch of the service, was, at his own request, relieved from duty with the Board April 8, 1895, and was succeeded by Col. Royal T. Frank, First Artillery, on the same date.

Hon. Byron M. Cutcheon, of Michigan, civilian member of the Board since July, 1891, tendered his resignation as a member March 26, 1895, and was succeeded by Hon. Joseph H. Outhwaite, of Ohio.

None of the original Board now remain members of it.

NEW LEGISLATION AFFECTING THE BOARD.

1. By the provisions of the act approved March 2, 1895, appropriation was made for continuing the work of the Board as follows:

Board of Ordnance and Fortification: To enable the Board to make all needful and proper purchases, experiments, and tests to ascertain, with a view to their utilization by the Government, the most effective guns, small arms, cartridges, projectiles, explosives, torpedoes, armor plates, and other implements and engines of war, and to purchase or cause to be manufactured, under authority of the Secretary of War, such guns, carriages, armor plates, and other war materials and articles as may, in the judgment of the Board, be necessary in the proper discharge of the duty devolved upon it by the act approved September twenty-second, eighteen hundred and eighty-eight; to pay the salary of the civilian member of the Board of Ordnance and Fortification provided by the act of February twenty-fourth, eighteen hundred and ninety-one, and for the necessary traveling expenses of said member when traveling on duty as contemplated in said act; for the payment of the necessary expenses of the Board, including a per diem allowance to each officer detailed to serve thereon, when employed on duty away from his permanent station, of two dollars and fifty cents a day; and for the test of experimental guns and carriages procured in accordance with the recommendations of the Board of Ordnance and Fortification, one hundred thousand dollars: *Provided*, That before any money shall be expended in the construction or test of any gun, gun carriage, ammunition, or implements under the supervision of the said Board, the Board shall be satisfied, after due inquiry, that the Government of the United States has a lawful right to use the inventions involved in the construction of such gun, gun carriage, ammunition, or implements, or that the construction or test is made at the request of a person either having such lawful right or authorized to convey the same to the Government.

That all material purchased under the foregoing provisions of this act shall be of American manufacture, except in cases when, in the judgment of the Secretary of War, it is to the manifest interest of the United States to make purchases in limited quantities abroad, which material shall be admitted free of duty.

2. In the same act appeared the following:

That whenever any party shall present for test a completed breech-loading mortar of twelve inches caliber, of not more than forty thousand pounds weight, built of mortar steel, with a proper supply of ammunition therefor, not exceeding two hundred rounds, such mortar shall be tested by the Board of Ordnance and Fortification, and should it be shown to the satisfaction of said Board of Ordnance and Fortification by such test to be at least equal in accuracy, range, power, endurance, material, and general efficiency to the best breech-loading service mortar in use, the mortar and ammunition shall be paid for, including cost of transportation, and a contract shall be made for a further supply of fifty and no more, at such reasonable cost as the Board of Ordnance and Fortification shall determine, not to exceed six thousand five hundred dollars each, the entire number to be delivered in one year from date of contract. Said mortar, and all which may be contracted for under this provision, shall be subject to inspection at each stage of manufacture.

The action of the Board pursuant to this provision will be found under the head of "Mortar-steel mortars."

A further provision of the same act provides for the repeal of section 6 of the act approved September 22, 1888, as follows:

That the following paragraph of section six of the fortification appropriation act, approved September twenty-second, eighteen hundred and eighty-eight, namely, "Whenever any party shall present for test a completed cast-iron breech-loading mortar of twelve inches caliber, of about thirty-two thousand pounds weight, with a proper supply of ammunition therefor, not exceeding two hundred rounds, such mortar shall be tested in the presence of the party presenting the same, and should it be shown to the satisfaction of the Board by such tests to be equal in accuracy, range, power, endurance, material, and general efficiency to the twelve-inch cast-iron steel-hooped breech-loading mortar now at Sandy Hook, the mortar and ammunition shall be paid for, including cost of transportation, and contract be made for a further supply of not less than fifty, and not more than one hundred, at such reasonable cost as the

Board (Board of Ordnance and Fortification) herein provided for shall determine, not to exceed six thousand five hundred dollars each, the entire number to be delivered in one year from date of contract. Said mortar and all which may be contracted for under this provision shall be subject to inspection at each stage of manufacture," is hereby repealed.

APPROPRIATIONS AND ALLOTMENTS.

In compliance with the act of February 24, 1891, which requires the Board to "give a detailed statement of all contracts, allotments, and expenditures made by the Board," an exhibit, marked Appendix A, is attached to this report, giving this detailed statement from October 31, 1894, to October 31, 1895.

No contracts are entered into by the Board, as they are made by the chief of the department to which the work pertains, under the direction of the Secretary of War.

The following table gives a summary of the appropriations which have been made for the work of the Board since its organization, the amounts which have been allotted therefrom, and the balances unallotted at the date of this report:

Summary of appropriations for the Board of Ordnance and Fortification and allotments from September 22, 1888, to October 31, 1895.

Act.	Total appropriations.	Total allotments, expenditures, and reverting to Treasury.	Total balances on hand not allotted or expended.
Fortification act Sept. 22, 1888.....	\$3, 972, 000. 00	\$3, 972, 000. 00	.....
Army appropriation Mar. 2, 1889.....	56, 000. 00	3, 156. 20	.....
		52, 843. 80	.....
Fortification act of—			
Mar. 2, 1889.....	1, 233, 594. 00	1, 194, 819. 00	\$24, 775. 00
Aug. 18, 1890.....	3, 832, 935. 00	3, 831, 820. 33	15, 114. 67
Feb. 24, 1891.....	2, 290, 803. 00	2, 290, 803. 00	.....
July 23, 1892.....	210, 000. 00	210, 000. 00	.....
Feb. 18, 1893, Aug. 1, 1894, and Mar. 2, 1895.....	375, 000. 00	270, 268. 24	104, 731. 76
Total	11, 970, 332. 00	11, 825, 710. 57	* 144, 621. 43

* NOTE.—Of this amount the sum of \$24,775 is available only for movable submarine torpedoes, for which it was exclusively appropriated; and the sum of \$4,500 is available only for the manufacture of 8, 10, and 12 inch seacoast guns by private parties, which renders it practically unavailable for allotment.

Total allotments.....	\$11, 737, 171. 29
Total expenditures for necessary expenses of Board.....	35, 695. 48
Total turned into Treasury.....	443. 80
Total reverting to Treasury by lapse of appropriations.....	52, 400. 00
Grand total.....	11, 825, 710. 57

GENERAL OPERATIONS.

The general operations of the Board during the year have included the supervising of tests of experimental guns and gun carriages, the investigation of the relative value of different systems of gun mounting, the preparation of a scheme of fire control for the harbors of the country, the development of high explosives for bursting shells and of smokeless powder for the propelling charge in guns of all calibers, and the examination of devices that give promise of being or becoming valuable accessories for seacoast defense.

During the year a great number of devices, ranging from positive absurdity to real merit, have been carefully investigated by the Board, and what was good in these ideas has been sifted from the worthless, with a view to utilizing everything valuable.

SUBJECTS CONSIDERED.

Among the subjects which have engaged the attention of the Board during the year are the following, with the action in each case:

Subject.	Proposed by—	Action.
New Fiske range finder.....	Western Electric Co.....	Purchase recommended.
Modified Lewis range finder.....	Lieut. I. N. Lewis.....	Do.
4.724-inch R. F. gun.....	Driggs Ordnance Co.....	Not recommended.
4-inch R. F. gun.....	do.....	To be tested.
Large caliber shell	Mannesmann Co.....	Awaiting additional information.
Projectile.....	"F. C. T.".....	Not recommended.
Emmensite	Dr. S. H. Emmens.....	Right to manufacture secured.
Converter board	Lieut. C. L. Best jr.....	Awaiting further information.
Field glass range finder.....	F. P. Cobham	Do.
Electric torpedo	L. Davis	Not recommended.
Rocket shell	James McIntyre.....	Do.
Brown 10-inch segmental wire gun	Brown & Munsell.....	Action postponed.
Telescopic sight	Lieut. C. L. Best, jr.....	Further trial not recommended.
Antifrictional projectile.....	Norman Wiard	Action postponed.
Torpedo with gas motor.....	L. Davis	Not recommended.
Range finder	F. H. Carslaw.....	Do.
Machine gun.....	J. T. Jeter.....	Do.
4.724-inch R. F. gun.....	Seabury Gun Co.....	Allotted for.
Crampton-Smith range finder.....	Elliott Bros.....	Not recommended.
Range finding devices.....	Henry Hess.....	Awaiting further information.
Mortar steel mortars.....	Wm. Cramp & Sons.....	Provisions governing construction and test outlined.
Disappearing gun carriage.....	Maj. M. B. Adams.....	Action postponed.
Fiske stadimeter.....	Western Electric Co.....	Awaiting further information.
Projectile.....	J. S. Kennedy.....	Do.
Antifriction wheeled projectile.....	D. M. Melford.....	Not approved.
Justin projectile.....	Justin Projectile Co.....	Further trial not recommended.
Forged steel mortars	Builders' Iron Foundry.....	Will be tested under certain conditions.
Polarizing photochronograph.....	Lieutenant Squier and Professor Crehore.....	Allotment for construction and test.
Elevation indicator.....	Lieut. I. N. Lewis.....	Allotment for manufacture.
Camera obscura range finder.....	Lieut. C. D. Parkhurst.....	Not recommended.
Converter board	Lieut. E. A. Millar.....	Allotment for construction.
Telescopic sights	Lieut. C. D. Parkhurst.....	Do.
Jovite	Jovite Manufacturing Co.....	Tests recommended.
Range finder.....	Alex. W. Lampkin.....	Additional information requested.
Ammonite.....	Harry Allen.....	Further trial not recommended.
Fletcher breech mechanism for 3.2-inch field guns.....	Chief of Ordnance.....	Test recommended.
Fletcher mechanism for 4.724-inch guns.....	Hotchkiss Ordnance Co.....	Action postponed.
Detonator for high explosives.....	Harry Allen.....	Further trial not recommended.
Projectile.....	W. L. Grant.....	Awaiting further information.
Seabury 3.2-inch mechanism.....	Chief of Ordnance.....	Test recommended.
Dashiell field gun mechanism.....	do.....	Do.
Minimum recoil field carriage.....	Driggs Ordnance Co.....	Do.
Controllable coast defense torpedo.....	Scheliha & Maitland.....	Not recommended.
Range cylinder	Lieut. E. A. Millar.....	Awaiting further information.
Smokeless powder.....	Pigon Wilks & Lawrence.....	Sample to be tested if submitted.
Breech mechanism for 12 inch mortar.....	Chief of Ordnance.....	Provision made for its manufacture and test.
Modified Fiske range finder.....	Lieut. B. A. Fiske.....	Awaiting additional information.
Printing telegraph system	Consolidated Telegraph and News Co.....	Test provided for.
Reading Wiard gun; conversion of 20 inch S. B. gun, proposition to construct a 24-inch all steel rifle.	Norman Wiard	Action postponed.
Ruckman-Crosby range finder.....	Lieut. J. W. Ruckman.....	Further development provided for.

EXPERIMENTAL GUNS.

The Crozier wire-wound 10-inch B. L. rifle.—The test of this gun has been continued during the year as opportunity offered at the proving ground, and at the date of this report has been fired 231 rounds. It is in the hands of the Ordnance Board, and the test will be carried to 300 rounds. Thus far the gun has stood the test well. The bore shows the ordinary erosion due to long-continued firing, but no weakness has been developed in the structure of the gun.

The 8-inch Haskell multicharge gun.—This gun is finished and a mount has been made for it so that it can be fired from a proof carriage. Mr. Haskell was requested April 16, 1895, to furnish detailed estimates of the kind and amount of powder that will be required for firing the gun 20 rounds, and also an estimate for 20 projectiles, in order that the proper allotment might be recommended. Up to date this information has not been furnished by Mr. Haskell.

CONTRACT GUNS.

The hundred-gun contract.—Under this contract twenty-five 8-inch, fifty 10-inch, and twenty-five 12-inch guns are to be made by the Bethlehem Iron Company. The progress made on this contract is shown by the report of the company, dated September 7, 1895, which is as follows:

SOUTH BETHLEHEM, PA., *September 7, 1895.*

REPORT OF PROGRESS IN THE CONSTRUCTION AND EQUIPMENT OF THE GUN FINISHING PLANT OF THE BETHLEHEM IRON COMPANY AND OF THE MANUFACTURE OF 100 FINISHED GUNS UNDER CONTRACT WITH THE CHIEF OF ORDNANCE, UNITED STATES ARMY, OF NOVEMBER 7, 1891.

[Supplementing report dated October 3 1894.]

MACHINE TOOLS.

During the past year several small machine tools have been added to the equipment of our shop to be especially used in the manufacture of breech mechanisms, and a screw cutting attachment (similar to those used at Watervliet Arsenal) has been fitted to our rifling machine for cutting the threads of interrupted screw on breech blocks and in breech-block chambers and also threads for bushings of 8-inch guns.

The inaccuracies of boring lathes referred to in note of our last report have been corrected and accurate boring is proceeding in a satisfactory manner.

PRESENT CONDITION OF GUNS BEING MANUFACTURED UNDER THIS CONTRACT.

TWENTY-FIVE GUNS, 8-INCH CALIBER.

Gun No. 1.—Ready to ship.

Gun No. 2.—Complete except muzzle marking. Not proof fired.

Gun No. 3.—Shipped to Sandy Hook for proof firing.

Gun No. 4.—Complete except muzzle marking. Proof fired.

Guns Nos. 5, 6, 7, 8, and 9.—Same as No. 2.

Gun No. 10.—Complete except fitting of sights and muzzle marking. Not proof fired.

Gun No. 11.—Tube and jacket assembled. All other pieces ready for assembling. Breech mechanism three-fourths complete.

Guns Nos. 12, 13, 14, and 15.—Tube and jacket assembled. All other pieces except trunnion ready for assembling. Breech mechanisms same as No. 11.

Guns Nos. 16 to 25, inclusive.—Of the 90 forgings (exclusive of those for breech mechanisms) required for these guns, all but one tube and three hoops are forged and accepted as to physical qualities, and 36 of them are machined ready for assembling.

FIFTY GUNS, 10-INCH CALIBER.

Guns Nos. 26, 27, 28, 29, and 30.—Assembled; partly finish-turned; bore finished except chamber. Forgings for breech mechanisms forged and tested and one-fourth machined.

Guns Nos. 31, 32, 33, and 34.—Assembled; partly finish-turned. Breech mechanisms same as Nos. 26 to 30.

Gun No. 35.—All parts except C-hoops ready for assembling.

Guns Nos. 36, 37, 38, and 39.—Tube and C-hoops assembled. All other pieces ready for assembling.

Guns No. 40 to 48, inclusive.—Of the 99 forgings (exclusive of those for breech mechanisms) required for these guns, 65 are forged and accepted as to physical qualities, of which 12 are machined ready for assembling.

TWENTY-FIVE GUNS, 12-INCH CALIBER.

Of the 110 forgings (exclusive of those for breech mechanisms) required for the first ten 12-inch guns, 92 are forged and accepted as to physical qualities, of which 6 hoops are machined ready for assembling.

THE BETHLEHEM IRON COMPANY.

ROBT. P. LINDERMAN, *President*

R. W. DAVENPORT, *Second Vice-President*.

From this report it will be seen that ten 8-inch guns are practically completed, 5 well advanced, and the parts for the remaining 10 nearly all forged and part of them machined.

Of the fifty 10-inch guns, 14 are assembled or ready to assemble, and the majority of the forgings for 9 more guns are made and a few machined.

Of the twenty-five 12-inch guns, 92 out of 110 forgings for the first 10 have been accepted.

The act of Congress authorizing this contract provided that one type gun of each caliber shall be subjected to such tests in respect to accuracy, range, power, endurance, and general efficiency as the Board of Ordnance and Fortification shall have prescribed. The tests that should be given this type gun were considered by the Board at its June meeting, at which time it was reported by the Chief of Ordnance that 10 guns were about completed.

As these guns were built after the plans of the Ordnance Department and under the inspection of an ordnance officer, they were presumably the same in every respect as those turned out by the gun factory at Watervliet Arsenal. It was therefore decided that it would involve unnecessary expense to subject one of these guns to the exhaustive test ordinarily required of a type gun, and it was recommended that the worst-appearing gun be sent to the Sandy Hook Proving Ground and given a partial test. Whether the test should be carried further was to depend upon the performance of the gun.

The test of this gun is still in progress.

HEAVY RAPID-FIRE GUNS.

As stated in the last annual report, four rapid-fire guns of 4.724-inch (12 centimeters) caliber, of foreign manufacture, were procured under allotments of the Board, viz: The Armstrong, Canet, Hotchkiss, and Schneider.

The tests of these guns have proceeded at the proving ground during the year, but none of them have succeeded in concluding the programme prescribed for this class of guns. The breech of the Hotchkiss gun was blown off at an early stage of the test, the breech block of the Canet was blown out by a premature explosion, and the mechanisms of both the Armstrong and Schneider have been disabled by firing.

A Seabury 4.724-inch gun was presented by its owners for test, this Board furnishing ammunition for the trial. This gun was made to fit the Hotchkiss mount and use the same ammunition. After the failure of the Hotchkiss gun it was deemed desirable to purchase the Seabury

gun for experimental purposes, and an allotment was made for that purpose, provided it proved to be in serviceable condition after completing the programme.

This gun is now undergoing repairs, the breech mechanism having been disabled in the effort to extract a sticking cartridge case.

The Driggs Ordnance Company, desiring to have their system of gun construction represented in the test of heavy rapid-fire guns, and not having a 4.724-inch gun on hand, were permitted to furnish a 4-inch gun and mount at their own expense, the cost of the test being covered by an allotment of the Board. The test of this gun is in progress.

RAPID-FIRE FIELD GUNS.

The advantages of using metallic ammunition for field guns is fully appreciated by the Board, and the efforts of the Chief of Ordnance to obtain the best breech mechanism have been seconded by the recommendation of such allotments as he desired for this purpose.

Allotments have been recommended and approved by the Secretary of War for the adaptation of the following systems of breech mechanism to 3.2-inch field guns, viz: The Seabury, the Dashiell, and the Fletcher.

The Ordnance Department already has a field gun fitted with the Gerdom system.

It is hoped that from these American systems one can be selected that will satisfy all the requirements of field service.

No fault is found with our present excellent field gun, but by the use of rapid-fire breech mechanism and smokeless powder more compact ammunition can be used, the primer can be dispensed with, and a more powerful gun of the same weight obtained. The use of smokeless powder will also be a valuable feature in field service.

MACHINE GUNS.

The Robertson 2-barreled machine gun.—The final trial of this gun took place December 3, 1894, and the report of the Board which tested it is appended (Appendix B).

The action of the Board of Ordnance and Fortification upon the report was as follows:

The trials of this gun have developed the fact that, although the mechanism is ingenious and simple, there is no appropriate place for such a weapon in the military establishment, as it is very much inferior in rapidity of fire to other machine guns used in the service.

The Board does not therefore recommend any further trials with the Robertson machine gun at the expense of the United States.

In recommending the test of this system of machine guns the Board had in view obtaining a piece that could be used for flank defense, with great rapidity of fire, and would require an embrasure of minimum size. There is an undoubted necessity for such a gun in our permanent fortifications.

MORTAR-STEEL MORTARS.

The act of Congress approved March 2, 1895, contained, as already stated, the following provision:

That whenever any party shall present for test a completed breech-loading mortar of twelve inches caliber, of not more than forty thousand pounds weight, built of mortar steel, with a proper supply of ammunition therefor, not exceeding two hundred rounds, such mortar shall be tested by the Board of Ordnance and Fortification; and should it be shown to the satisfaction of said Board of Ordnance and Fortification by such test to be at least equal in accuracy, range, power, endurance, material, and general efficiency to the best breech-loading service mortar in use, the mortar and ammunition shall be paid for, including cost of transportation, and a contract shall

be made for a further supply of fifty and no more, at such reasonable cost as the Board of Ordnance and Fortification shall determine, not to exceed six thousand five hundred dollars each, the entire number to be delivered in one year from date of contract. Said mortar and all which may be contracted for under this provision shall be subject to inspection at each stage of manufacture.

On March 8, 1895, Mr. C. E. Creecy, attorney for the William Cramp & Sons Ship and Engine Building Company, addressed the following letter to the Board:

WASHINGTON, D. C., *March 8, 1895.*

SIR: I am instructed by the William Cramp & Sons Ship and Engine Building Company to invite your attention to section 2 of the inclosed copy of the fortifications appropriations act approved March 2, 1895, which provides for the test of that firm's "mortar-steel" mortar.

By the language of the law the firm is to furnish your Board "with a proper supply of ammunition, not exceeding two hundred rounds," to make the "test" required by the law with "the best breech-loading mortar" now "in use." I respectfully request to be informed of the number of rounds your Board will require to be furnished by the company within the limit of the 200 prescribed by the law, together with the kind of powder and projectile to be furnished by the company and the amount of powder and weight of projectile for each round.

I have also to request that the firm be furnished by your Board with blue prints of the general and detailed drawings of "the best mortar" now "in use," so that in the construction of the firm's mortar the company may conform as far as possible to the dimensions, etc., of the "service mortar" now "in use."

Please send reply to my care.

Very respectfully,

C. E. CREECY,

Attorney for the Wm. Cramp & Sons Ship and Engine Building Company.

P. S.—As the company intends to construct this mortar as soon as possible, an early reply is very much desired.

C. E. C.

Gen. JOHN M. SCHOFIELD, U. S. A.,

President of the Board of Ordnance and Fortification, War Department.

The action of the Board upon this letter was as follows:

It is recommended that Mr. Creecy be informed that the Board regards it as necessary to test the type mortar of "mortar steel" to the full limit of the 200 rounds authorized by law. The kind and weight of powder and projectiles which will be required by the Board will be communicated to the company at an early date. It is very important to the "general efficiency" of the mortar, as intimated by Mr. Creecy in his concluding paragraph, that it be made of the same dimensions as the all-steel mortar, in order that it may be fired from the service carriage. The mortar and the material of which it is composed should be subject to the usual inspection by the Ordnance Department at every stage of its manufacture.

It is recommended that the Chief of Ordnance be requested to furnish to the William Cramp & Sons Ship and Engine Building Company such drawings of the 12-inch B. L. R. steel mortar and its projectiles as in his judgment may be necessary.

It is further recommended that the Chief of Ordnance be requested to furnish the Board with the details of the firing record of the 12-inch steel mortar in time for its next meeting.

April 17, 1895, the following letter was laid before the Board:

WASHINGTON, D. C., *April 1, 1895.*

DEAR SIR: I hereby acknowledge receipt of the extract of the Board's proceedings of March 13 in regard to section 2 of the fortification appropriation act approved March 2, 1895.

I respectfully request that the Board will furnish me at its earliest convenience, for the information of the Cramp Company, with a statement of the number of rounds fired up to the time of the passage of the law from the "best mortar now in use" with which we are to compete, the statement to show the kind and weight of powder and projectile and the general performance of the mortar.

Very respectfully,

C. E. CREECY,

Attorney for the Wm. Cramp & Sons Ship and Engine Building Company.

Gen. JOHN M. SCHOFIELD, U. S. A.,

President Board of Ordnance and Fortification, War Department.

The action of the Board was as follows :

It is recommended that Mr. Creecy be informed that the kind and weight of the powder and projectiles that will be required for the test of the "mortar-steel" mortar will be communicated to him at an early date, as stated in the proceedings of the Board dated March 13, 1895, a copy of which was furnished to Mr. Creecy. The test of the proposed mortar will be made to conform, as exactly as possible, to that of the type steel mortar. The number of rounds that had been fired from the steel mortar at the date of the passage of the act authorizing the construction of the "mortar-steel" mortar appears to the Board irrelevant in view of the wording of the law, which specifies that the new mortar-steel mortar shall be shown to the satisfaction of the Board to be equal in accuracy, range, power, endurance, material, and general efficiency to the best breech-loading service mortar in use. This requirement can only be met by a thorough comparative trial of the two types. Such trial will be made upon the principles heretofore governing the Board in the case of the cast-iron mortar, for which appropriation was made by the act of September 22, 1888.

At the same meeting the following letter was received from Mr. R. A. Robertson, treasurer of the Builders' Iron Foundry:

PROVIDENCE, R. I., *March 20, 1895.*

DEAR SIR: Referring to section 2 of the act of Congress making appropriations for fortifications, etc., approved March 2, 1895, we would inquire what is meant by "mortar steel"; and further we would inquire if we should submit to the Board of Ordnance and Fortification a mortar built up of forged steel, in every way identical with those recently made at Watervliet Arsenal, the Board would accept such gun as fulfilling the requirements of said section, provided, of course, that it successfully withstood the required test.

Yours, truly,

BUILDERS' IRON FOUNDRY,
R. A. ROBERTSON, *Treasurer.*

CHIEF OF ORDNANCE, U. S. A.,
War Department, Washington, D. C.

The Recorder was directed to communicate with the attorney for the William Cramp & Sons Ship and Engine Building Company, requesting information as to whether that company has the exclusive right to use the material called "mortar steel," and asking that the letters patent on the metal, if it be a patented invention, be furnished for the files of the Board.

The following reply was received to the questions of the Recorder:

WASHINGTON, D. C., *May 14, 1895.*

SIR: Replying to the letter of the Board of Ordnance and Fortification of the 17th instant, I have to state that the process of making mortar steel is a secret, possessed by the Cramps and by no one else. It has not been patented. If at any time hereafter the firm determines to take out a patent the Board will be promptly furnished with a copy.

Very respectfully,

C. E. CREECY,
Attorney for the Cramp Company.

Gen. JOHN M. SCHOFIELD,
President of the Board of Ordnance and Fortification, War Department.

In order to settle the question as to the meaning of the term "mortar steel" and to obtain a decision upon other points, the following action was taken May 14, 1895:

Application having been made to the Board by parties proposing to manufacture mortars under the act approved March 2, 1895, for information as to the meaning of the term "mortar steel" used in the act, the Board is in doubt what reply to make and desires a legal opinion as to the meaning of the law.

The Board is inclined to regard the term "mortar steel" as applicable to any steel suitable for the manufacture of mortars, and it would seem that Congress, by the language of the act, intended to open the competition for those mortars to all steel makers who can manufacture steel mortars to equal in all characteristics the steel mortar made by the Ordnance Department, which was considered the standard. From the letter of the attorney of the Cramp Company it would appear that that company claims the sole possession of the alleged secret of making what they term "mortar steel."

It is therefore recommended that an opinion be asked from the law officers of the Government as to the correct interpretation of the second section of the fortification act approved March 2, 1895.

In connection with the inquiry propounded above, the Board would also like advice as to the proper course of procedure should more than one competitor present mortars for test.

Does the act intend that each party presenting a satisfactory mortar shall have a contract for a further "supply of 50 and no more," or is the entire number to be contracted for limited to 50?

If it is decided that the entire number should be limited to 50, should the Board receive and test all the sample mortars that may be presented, and if satisfactory pay for all of them, or does the action of the law terminate with the first mortar which endures the prescribed tests, and should a contract be at once entered into with the firm presenting it?

If several parties are permitted to compete at the same time and are successful, should the contract for 50 mortars be divided among them if only 50 are to be ordered?

The following reply of the Attorney-General of the United States to the questions propounded by the Board was considered June 19, 1895:

DEPARTMENT OF JUSTICE,
Washington, D. C., May 23, 1895.

SIR: I have the honor to acknowledge your communication of May 20, asking my opinion on certain questions presented by the Board of Ordnance and Fortification and by the Chief of Ordnance. It is necessary, upon such an application, to formulate definitely the questions, answers to which are desired (20 Op., 711, 713). The only question which I find definitely formulated relates to the definition of the term "mortar steel" in the fortifications appropriation act of March 2, 1895, section 2.

That section provides for the purchase of certain breech-loading mortars "built of mortar steel" in case they shall be found "to be at least equal in accuracy, range, power, endurance, material, and general efficiency to the best breech-loading service mortar in use."

It appears that a certain firm, or corporation, known as Cramp & Sons claims that the term "mortar steel" is a technical one, confined to a certain quality of steel made by themselves by a secret process, not patented, and whose nature can not be ascertained from them.

To define this term it is first necessary to ascertain whether it has a settled technical meaning. If it has none, then the words must be regarded as used in their ordinary sense. (*Saltonstall v. Wiebusch*, 156 U. S., 601, 602.) Whether the term has such a technical meaning is a question of fact (*Seeberger v. Schlesinger*, 152 U. S., 581, 585); and questions of fact I am not authorized to decide (20 Op., 590, 592). I think, however, that your letter sufficiently shows that whatever technical usage may exist concerning the words "mortar steel," it is not sufficient to establish such a technical definition of that term as could affect its statutory construction. You say: "The term can not be said to be one in general use." If the usage is not definite, uniform, and general, it is entitled to no weight. (*Maddox v. Magone*, 152 U. S., 368; *Berbecker v. Robertson*, 152 U. S., 373.)

So far, therefore, as the facts are stated by your letter, the term "mortar steel" is properly construable as including any steel of such quality as is considered by experts to be adapted for use in the construction of mortars.

The claim that this section "was introduced at the suggestion of the attorney for Cramp & Sons" is not entitled to any consideration. The section was introduced, whether as part of the original bill or by way of amendment thereto, by some Member of Congress; and it can not be presumed or proved that any Member of Congress acted in the performance of his duties on behalf of Cramp & Sons or any other firm or corporation.

Very respectfully,

RICHARD OLNEY, *Attorney-General.*

THE SECRETARY OF WAR.

In accordance with this decision the Board informed the Builders' Iron Foundry that the term "mortar steel" is regarded as including any steel of such quality as is considered by experts to be adapted for use in the construction of mortars, and that a mortar, built up of forged steel, in every way identical with the Watervliet Arsenal all-steel mortar, would therefore be accepted by the Board as fulfilling the requirements of the act of March 2, 1895. No further propositions have been made to the Board by the Cramp Ship and Engine Building Company, nor by the Builders' Iron Foundry.

GUN CARRIAGES.

Emery 12-inch elevating carriage.—The inventor of this carriage, Mr. A. H. Emery, states as follows in his report to the Board dated September 19, 1895:

* * * The design for my gun carriage was finished last spring, after which I was ill a few weeks, and the rest of the time I have been busy trying to get the work into the shop, but so far without complete success. Two weeks ago I thought that I had my arrangements for this most completed to commence the work in the shop, but the negotiations to do the work in that place fell through at the last moment, and I have to try again elsewhere.

There are two or three troubles in my way. The shops are now very busy, and the magnitude of the work is such that only a few of the works in the country have tools that can handle it. Besides this I am hindered by that part of the contract that calls upon me to give bonds to return certain moneys in case the carriage is not accepted. I have one party now anxious to do the work if I can relieve him of that part of the risk. Both he and others think that they have quite risk enough to take in the matter without taking that one.

It is quite possible that I may succeed in completing my arrangements to get into the shop before you get your report printed, and I will notify you when this happens so you can avail thereof if you wish to.

Twelve-inch minimum-port casemate carriage.—At the date of the Board's last report, this carriage was awaiting repairs, the front transom having given way at the sixth round. A new steel transom was put in and the carriage successfully tested. There is no doubt that with some slight modifications this carriage will answer its purpose for the few positions where a casemate carriage is required.

The new 10-inch pneumatic carriage.—The status of the Board with regard to this carriage was exhaustively discussed in the last annual report (pp. 10–16). The contract with the Pneumatic Gun Carriage and Power Company to furnish a carriage for \$50,000, as provided for by the act of Congress approved August 1, 1894, was executed November 7, 1894, and the carriage should have been in place at the Sandy Hook Proving Ground June 7, 1895, but has not, at the date of this report, been delivered.

An allotment of \$19,500 was made April 16, 1895, for constructing a platform for this carriage and for the test. The platform is completed.

The Gordon modified 10-inch disappearing carriage.—The trial of this carriage was described in the last report of the Board (pp. 16–18) with the exception of the rapidity test, which took place in the presence of a committee of the Board December 3, 1894. The report of the committee was as follows:

SANDY HOOK PROVING GROUND, December 3, 1894.

GENERAL: In compliance with the instructions of the Board of Ordnance and Fortification, the undersigned, as a committee of the Board, to-day witnessed the rapidity test of the modified Gordon 10-inch disappearing gun carriage.

Since the test of the traversing, raising, and elevating apparatus of this carriage by the Board, September 27, 1894, the following alterations have been made. The main hydraulic cylinder, which was cracked during the trial of the carriage before the Board on Disappearing Gun Carriages, has been replaced by another, the insecure braces that supported the pump platform at the rear of the carriage have been replaced by massive brackets, and the pressure gauges have been placed out of the way against the left side of the carriage.

The full particulars of the firing are given in the "Record of firing."

The principal features of the test may be briefly recapitulated as follows: The number of rounds fired in the hour was 32—22 more than the contract requirement.

The elevation of the gun was 10° throughout the test.

Two charges of 224 pounds of V. U. Du Pont's brown prismatic powder, lot 16, giving a velocity of 1,895 feet per second and a pressure of 34,300 pounds; 8 charges of 241 pounds of W. H., lot 4, giving a velocity of 1,975 feet per second and 36,500 pounds pressure; and 22 charges of 240 pounds of V. U., lot 17, giving a velocity of 1,930 feet per second and 33,600 pounds pressure were used in the test.

The projectiles were solid shot averaging 575 pounds each.

The total time taken in firing the 32 rounds was one hour forty-eight minutes and fourteen and three-fourths seconds, six seconds remaining of the hour.

Time was allowed the carriage as follows:

Round.	Minutes.	Seconds.	Reason.
9	1	37½	Breaking of rammer.
10	8	37½	Cleaning breechblock and filing console.
11	13	39	Filing translating roller.
16	3	28½	Ship in line of fire.
20	10	24½	Filing translating roller.
21	8	43½	Ship in line of fire.
28	1	50½	Do.
Total.....	48	20¾	

The top carriage struck the buffers and rebounded, so that it had to be pumped down by hand at the fifth, seventh, and eleventh rounds.

A joint in the copper pipe leading from the regulating levers to the air reservoir began to leak about the eighth round, and air had to be pumped into the reservoir at the sixteenth, twentieth, and twenty-fifth rounds. The first 10 rounds were fired with an air pressure of 90 pounds, the succeeding 19 at 105 pounds, and the last 3 rounds at 100 pounds. The time required for pumping the air was not deducted from the total time. With the exceptions that have been noted the carriage worked well throughout the test.

The firing detachment consisted of 1 officer, 1 noncommissioned officer, and 14 men. The enlisted men alternated every 10 rounds.

Respectfully submitted.

HENRY L. ABBOT,
Colonel of Engineers, Bvt. Brig. Gen., U. S. Army.

FRANK H. PHIPPS,
Major of Ordnance, U. S. A.

J. C. AYRES,

Captain of Ordnance, Recorder Board of Ordnance and Fortification.

Gen. J. M. SCHOFIELD, U. S. A.,

President Board of Ordnance and Fortification.

This carriage afterwards became disabled in an experiment to determine the effect of the blast upon a parapet. (See p. 15 of this report.) The inventor, Capt. W. B. Gordon, Ordnance Department, having stated to the Board that he proposed to submit a model of a gun carriage of an improved design, the consideration of the question of repairing this carriage was postponed.

Authority to dismount the carriage and place it in store has since been granted, as its site is required for other purposes.

Eight-inch and 10-inch Crozier-Buffington carriages.—These carriages have passed the experimental stage and have been adopted for all positions requiring the front pintle construction. For information in regard to them, reference is made to the report of the Chief of Ordnance.

Adams 10-inch disappearing carriage.—The drawings for this carriage have been completed and have been examined by the Board, but action has been deferred until the Board can have all the different plans of center-pintle disappearing carriages before it that are expected in the near future.

SEACOAST MORTAR CARRIAGES.

The Gordon mortar carriage has been fully tested during the year with excellent results. With the exception of a few accidents due to lack of strength in some of the parts, which were readily repaired, the carriage worked well.

Twelve-inch pneumatic mortar carriage.—This carriage was manufactured by the Pneumatic Gun Carriage and Power Company at its own expense, but the platform for it was erected under an allotment of the Board.

The test of this carriage has been completed and the result will be found in the report of the Chief of Ordnance.

IMPORTANT EXPERIMENTS.

Trial of mortar battery at Sandy Hook.—This battery consists of sixteen 12-inch B. L. mortars, dispersed in groups of four, according to the adopted plan for such batteries.

It was thought advisable to make a trial of the efficiency of this battery as an important defensive work for the protection of the harbor of New York.

The main features of the experiment may be briefly recapitulated as follows:

Two volleys of sixteen shots each were fired, one at 3,000 yards and one at 6,000. The mortars were aimed so that the projectiles would fall on land, all the mortars being given the same azimuth and elevation for the respective volleys. Each projectile was numbered, so that the mortar from which it was fired would be known.

The results were quite satisfactory, and it was proved that such batteries are formidable defensive works.

Effect of blast of a 10-inch gun mounted upon a disappearing carriage.—It was feared that the blast from the gun on a disappearing carriage, on account of the quickness with which it falls below the parapet, might injure a permanent work, and that the smoke might interfere with the working of the gun.

In order to satisfy themselves on this point, the Board recommended the erection of a wooden screen in front of the Gordon carriage to simulate the parapet. Only a few shots were fired before a breakage of the carriage occurred, but these shots clearly demonstrated that there would be no injurious effect on the parapet or on the gunners working the guns.

Rapidity of fire of guns mounted on disappearing and nondisappearing barbette carriages.—It was deemed very desirable by the Board that the relative rapidity of fire that can be obtained from the various forms of mounts for heavy seacoast guns should be ascertained, as this information would have great weight in their selection for permanent fortifications.

The disappearing carriages and the minimum-port casemate carriage were tested for rapidity of action as a part of their acceptance trial. Allotments were made for the test of the gun-lift battery and the non-disappearing barbette carriages.

The results of these tests are given in the following table:

Comparative rapidity of action of different mounts for heavy seacoast guns.

	Caliber of gun.	Time of firing 10 rounds.		Remarks.
		<i>Inches.</i>	<i>M. S.</i>	
Nondisappearing barbette	8	17	.....
Do	10	14	39	
Do	12	28	11	
Crozier-Bullington disappearing	8	12	21	
Do	10	14	41.9	
Gordon disappearing	10	18	45	Calculated from record of 32 rounds in one hour.
Minimum-port casemate	12	30	8.8	Simulated—gun not fired.
Gun-lift battery	12	84	.....	Battery consists of 2 guns. Time for 10 rounds from both guns, 42 minutes.

RANGE AND POSITION FINDERS.

The reports of the Board on Range and Position Finders are appended, marked C.

Substantial progress toward the selection of the best instruments for field and seacoast range finding has been made during the year.

Field range finders.—The Range-Finder Board having reported that they considered the Weldon range finder “of such merit as to justify its being subjected to the more severe tests incident to service,” this Board allotted funds for the purchase for further experiment of one range finder for each field battery of artillery and one for each of the schools of instruction at Forts Leavenworth and Riley.

These instruments are to be tested under field conditions and reports rendered.

The reports of the Range-Finder Board record the action on other field range finders.

Seacoast range finders.—Two new instruments of this class have been installed at Fort Hamilton, New York Harbor, during the year—the Fiske and the Lewis.

The Fiske range and position finder has a horizontal base of about 1,000 yards, and depends for its action upon the zero principle of the Wheatstone bridge, like the old pattern instrument experimented with at Fort Wadsworth but differing from it in that a much greater length of the resistance wire is presented for a degree of azimuth and thus greater accuracy is insured. The method of determining the range by the absolute electrical resistance has also been abandoned and the range is given by the intersection of arms parallel to the observing telescopes.

The Fiske range finder was purchased with the condition attached that it must equal the English standard of accuracy for range finders, which permits of an error of 1 per cent per 1,000 yards. The instrument far exceeded this requirement. This instrument has been turned over to the Board on the Regulation of Seacoast Artillery Fire for thorough test as to its accuracy, endurance, and facility of operation under service conditions.

The Lewis depression range finder.—The Lewis instrument at Fort Wadsworth was so successful that the Board recommended the purchase of another for Fort Hamilton, embodying such improvements as had been suggested to the inventor by the use of the other. The one ordered was of the first type—for altitudes less than 100 feet. The range finder was tested by the Range-Finder Board, who reported that it was well adapted for service. Before definitely recommending its adoption, the Board considered it wise to have three made, one of each of the types designed by the inventor, viz, for high elevations (200 to 400 feet), for medium elevations (100 to 200 feet), and for low elevations (30 to 100 feet), and to expose them to service conditions at representative artillery forts. An allotment was made for this purpose and the instruments will soon be ready for issue.

The Zalinski range finder has not yet been presented for test, but Captain Zalinski informs this Board that it is under construction.

BOARD ON THE REGULATION OF SEACOAST ARTILLERY FIRE.

The appointment of this board was recommended October 23, 1894, and the recommendation having been approved by the Secretary of War, the board was duly appointed. A progress report of the board is appended and marked Appendix D.

The Board of Ordnance and Fortification at its July meeting witnessed a partial exhibition of the progress made up to that date and was much impressed by the experiments. The location of passing vessels was determined with great celerity and accuracy, and in predicting the positions of moving vessels at specified times, the work of the officers and men, instructed by the board, was especially good.

The following programme, suggested by the Board on the Regulation of Seacoast Artillery Fire, was carried out:

(1) Inspect Lewis range finder and Fiske range finder. Exhibition of working.

(2) Inspect Rafferty relocater. Exhibition of working by enlisted men for time and accuracy up to 10,000 yards.

(3) The gun—method of giving elevation by a mark, testing for time and accuracy.

(4) The system consisting of Nos. 1, 2, and 3 united, tested for time and accuracy by setting gun on fixed points on information from range finder—telescopic sight used to test for direction.

(5) Prediction—gun set on predicted position of moving objects and friction primer used; test for accuracy by sighting through telescopic sight when primer is fired.

(6) Inspect deviation index for determining wind and atmospheric allowances.

The importance of the work of this board can not be overestimated. The artillery practice of the future should be an exact science and not a tentative process. When each round from our high-power guns costs from \$100 to \$500, sighting shots must be dispensed with if possible, and when modern war ships have a speed of 20 knots an hour there is not time for preliminary practice. By the methods which the Board on the Regulation of Seacoast Artillery Fire is developing, any gun or every gun in a harbor can be trained upon an enemy's ship without a gunner seeing the ship, or a battery of mortars can be so aimed that a fleet upon advancing a certain distance will encounter a destructive fire.

Many improvements have been devised by the board. The "relocater," invented by Lieut. W. C. Rafferty, one of the members of the board, by means of which the range and azimuth of an object determined by the range finder can be transformed into corresponding data for the gun, which may be hundreds of yards distant from the range finder, has proved very efficient.

A "converter board," for the same purpose but using a different principle, invented by Lieut. E. A. Millar, is to be constructed and will be tested in competition with the "relocater."

Among other devices to increase the promptness and accuracy of their work, the merits of which are yet to be determined by test, may be mentioned an "elevation indicator," by Lieut. I. N. Lewis; an azimuth circle vernier by the same officer; a deviation index for determining wind and atmospheric allowances, and a disk for use in quickly giving elevations to the 8-inch M. L. converted rifle with which the board has to conduct its practice, both by Lieutenant Rafferty.

Artillery officers are taking great interest in the work, and have made valuable suggestions. Lieut. E. A. Millar has devised a system of range cylinders for attachment to the service sight, to obviate any change in velocity; Lieut. C. L. Best, jr., has suggested a V-shaped vernier for quickly and accurately reading azimuth angles, and Lieut. C. D. Parkhurst has designed a telescopic attachment for seacoast guns, and also a telescopic sight.

The Board on the Regulation of Seacoast Artillery Fire has also composed a pointing drill for use with the Lewis range finder and the Rafferty relocater.

Thus far the work of the board has only progressed to the control of the fire of a single gun in connection with range-finding appliances. The next step will be to extend the system to more guns and eventually to all the guns of a harbor. After that will come the consideration of fire control at night.

New York Harbor was selected as the type harbor for which a method of fire control is to be developed, but it is the ultimate design to perfect a system that shall be applicable to all seacoast fortifications.

The work of the Board on the Regulation of Seacoast Artillery Fire has developed the need of protection in permanent fortifications for the range finders and relocating instruments. A plan for such cover has been well worked out by the Board of Engineers for Fort Wadsworth, and similar provision should be made at all seacoast forts.

THE POLARIZING PHOTOCYRONOGRAPH.

This instrument is a novel and ingenious device for the measurement of the velocity of projectiles by the use of photography and the properties of polarized light, invented by Dr. A. C. Crehore, of Dartmouth College, and Lieut. G. O. Squier, Third Artillery.

The possible results to be obtained by the use of this instrument appeared to the Board to be of such value that an allotment was made to develop it on condition that the inventors assign the right to manufacture the instrument, without royalty, to the United States.

This was done and the instrument is under construction.

SMOKELESS POWDERS.

An allotment of \$2,400 was made last year for the purchase and test of smokeless powders. These experiments were conducted under the direction of the Chief of Ordnance, and reference is made to the report of that officer for information on this matter.

This subject is now becoming one of great prominence and calls for exhaustive experiment. A great deal has been accomplished, but it has been somewhat negative in its character, teaching us what unstable and dangerous compounds should be rejected rather than offering us anything worthy of acceptance. An entirely satisfactory smokeless powder for field, siege, and seacoast guns has yet to be developed. The Board realizes the importance of this subject and has introduced an item into its estimates for next year to provide for further exploration in this field.

HIGH EXPLOSIVES.

This subject has been under the charge of a committee of the Board, consisting of Gen. H. L. Abbot, Corps of Engineers, and Maj. Frank H. Phipps, Ordnance Department. Two reports of this committee, made to the Board during the year, which are of general interest, are here embodied in full:

REPORT ON THE BURSTING OF THE 15-INCH RIFLE.

BOARD OF ORDNANCE AND FORTIFICATION, WAR DEPARTMENT,
Washington, D. C., May 13, 1895.

GENERAL: The committee on high explosives has the honor to report the bursting, on Saturday, May 11, 1895, of the 15-inch gun which had been rifled for experiments with high explosives.

A shell containing 114½ pounds of gun cotton, with 58 pounds of paraffin and Canada wax to fill interstices of gun cotton, was safely fired. The propelling charge was 124 pounds of powder; elevation, 21°, and velocity about 960 feet per second.

The gun was next loaded with a shell containing 230 pounds of emmensite. The propelling charge and elevation were the same as the previous round. The gun was burst by this charge, the fragments being scattered over the whole upper part of the reservation.

These shells weighed, loaded, 1,640 pounds.

Very respectfully, your obedient servants,

HENRY L. ABBOT,
Colonel of Engineers, Bvt. Brig. Gen., U. S. Army.

FRANK H. PHIPPS,
Major, Ordnance Department, U. S. Army.

Lieut. Gen. J. M. SCHOFIELD,
Commanding U. S. Army, President of the Board of Ordnance and Fortification, War Department, Washington, D. C.

Previous to this experiment arrangements had been made by the Chief of Ordnance, acting upon the recommendation of this Board, to purchase the right to manufacture emmensite, as the inventor had gone out of the business. The question whether the purchase should be consummated or not after this explosion was very carefully considered by the Board, and action was finally taken as follows:

JUNE 19, 1895.

It is recommended that, in view of the fact that emmensite has given such excellent results in previous trials, that the charge of emmensite in the experiment referred to in the letter of the Chief of Ordnance was more than double any charge that will probably be used in service, and also that the interior surface of the projectile was not in a condition favorable to the test, the Board is of opinion that experiments with this explosive should be continued, and that therefore the transaction with Dr. Emmens should be completed.

The purchase has been made, and as soon as a supply of this explosive can be provided further experiments will be instituted in order to determine what charges can be safely discharged in shells and what velocities can be used. The inventor claims that the sensitiveness of emmensite can be diminished at will by changing the proportions of the ingredients, and this will be tested, though of course the power of the detonator must be increased in proportion to the decrease of sensitiveness.

This explosion tends to lessen confidence in emmensite, but the fact remains that it is the most promising high explosive for charging shells that the Board has experimented with, and it should not be condemned without further trial because it failed in the enormous charge used in the 15-inch shell.

REPORT ON TEST OF JOVITE.

ARMY BUILDING,
New York City, June 10, 1895.

GENERAL: The committee on high explosives has the honor to submit the following report on certain trials made on the 4th instant at Fort Hamilton with the new explosive, jovite, fired in subterra shells:

Two grades of this explosive were submitted for test by the company. Both were in the form of fine powder, although a few cartridges were also sent. It is claimed that both are stable at the highest and lowest natural temperatures; that both may be exploded at the lowest natural temperatures by detonators; that when detonated both are smokeless, with products more innocuous than those of sporting powder; that when ignited both will burn more slowly than blasting powder, and that both are insensitive to the impact of projectiles, to percussion, and to concussion. Also, that owing to their low melting points and the stability of their ingredients the maximum force of explosion can only be developed by detonation. The chemical composition of the two grades is the following:

Jovite N. A. powder:	Per cent.
Nitronaphthalenes	5
Nitrophenols	8
Nitrate of ammonia	87

Jovite N. S. powder:	Per cent.
Nitronaphthalenes	5
Nitrophenols	35
Nitrate of soda	60

These ingredients are fused together in order to coat the deliquescent nitrates with slightly soluble nitro substitution compounds, and it is claimed that a moderate degree of protection against the effects of moist air is thus secured.

It was found by trial that both powders, of which the N. A. grade has a light-green tint and the N. S. grade a light-yellow tint, are proof against direct and glancing blows of iron on wood, iron on stone, and iron on iron. Also, that both blaze like gun cotton when ignited with a match. Attention, however, was chiefly directed to the subterra shell trials.

The shells were loaded to the full extent of their capacity, the powder being solidly compacted with a wooden rammer. The charge thus introduced weighed 6.75 pounds. The following are the details of the several trials:

Shell (1).—Charge, 6.75 pounds of the N. A. grade. Primer, a submarine mining fuse containing 24 grains of mercuric fulminate. Hole, 5 feet deep. Distance from ground level to upper part (base) of shell, 3 feet, giving a line of least resistance of 3.5 feet.

On applying the battery no explosion followed. Examination showed that the fuse had detonated, producing an ellipsoidal cavity about 4 inches high and 2.5 inches in diameter, situated about an inch below the surface of the explosive which had become compacted to a hardness like indurated clay. The iron shell had remained uninjured. A new primer, consisting of two submarine mining fuses containing together 48 grains of mercuric fulminate, was introduced into the cavity and covered by pressing the pulverized explosive into close contact. The shell was replaced in the hole as before and fired. A moderate earth jet followed, and the recovered base of the shell was found to be cracked radially but not separated. The crater gave the following radii at equal distances round the circumference, measured in the direction of motion of the hands of a watch: 4.1, 3.4, 3, 3.2, 3.5, 4.4, 3.9, and 3.8 feet, giving a mean of 3.66 feet, which is the true crater radius. Hence, by the method of computation explained in the first annual report of the Board, we find for the equivalent of 6.75 pounds of this explosive:

$$C = \frac{1}{17} \left[3.50 + \frac{7}{8} (3.66 - 3.50) \right]^3 = 2.84 \text{ pounds of explosive gelatin.}$$

Shell (2).—This trial was the counterpart of the last. As before, no explosion occurred, although a cavity was formed in the powder about 3.5 inches deep and 2.5 inches in diameter. A double primer was inserted as before and the current was again applied. The hole was 4.4 feet deep, and the distance from the ground level to the upper part (base) of the shell was 2.4 feet, giving a line of least resistance of 2.9 feet. The explosion cleared the hole well, and gave the following dimensions of crater, measured on the circumference and in the direction of motion of the hands of a watch: 3.7, 3.2, 3.5, 4, 3.8, 4, 4, and 3.6 feet, giving a mean of 3.72 feet for the true crater radius. Hence, for the equivalent of 6.75 pounds of the N. A. grade of this powder, we have:

$$C = \frac{1}{17} \left[2.90 + \frac{7}{8} (3.72 - 2.90) \right]^3 = 2.79 \text{ pounds of explosive gelatin.}$$

Shell (3).—Charge, 6.75 pounds of the N. S. grade of the powder. Primer, a submarine mining fuse containing 24 grains of mercuric fulminate. Hole, 5 feet deep. Distance to the upper part (base) of the shell, 3.18 feet, giving for the line of least resistance 3.68 feet. The explosion was normal. The base of the shell showed the usual radial cracks, but was not separated in pieces. The following are the crater radii, measured as above indicated: 3.9, 4.1, 4.5, 4, 3.8, 4, 4.1, and 3.6 feet, giving a mean of 4 feet for the true crater radius. Hence, for the equivalent of 6.75 pounds of this grade of jovite, we have:

$$C = \frac{1}{17} \left[3.68 + \frac{7}{8} (4 - 3.68) \right]^3 = 3.65 \text{ pounds of explosive gelatin.}$$

Shell (4).—Charge, 6.75 pounds of the N. S. grade of the powder. Primer, a submarine mining fuse containing 24 grains of mercuric fulminate. Hole, 5 feet deep. Distance to upper part (base) of shell, 3.18 feet, giving a line of least resistance of 3.68 feet. Normal explosion. The base of the shell when recovered was encircled by a dislocated ring of the body, and cracked radially. The following are the crater radii measured as indicated above: 4, 4, 4, 4, 3.8, 3.9, 4.1, and 4.6 feet, giving a mean of 4.05 feet for the true crater radius. Hence, for the equivalent of 6.75 pounds of this grade of jovite, we find:

$$C = \frac{1}{17} \left[3.68 + \frac{7}{8} (4.05 - 3.68) \right]^3 = 3.78 \text{ pounds of explosive gelatin.}$$

Shell (5).—Charge, 6.75 pounds of grade N. S. of the powder. Primer, a submarine mining fuse containing 24 grains of mercuric fulminate. Hole, 5 feet deep. Distance to upper part of shell (the base), 3.25 feet, giving a line of least resistance of 3.75 feet. The explosion gave a much smaller jet than before, and the rim of the crater was raised about 8 inches above the general level of the site, indicating only a partial detonation. The dimensions of the crater confirmed this inference, as appears from the following radii, measured as indicated above: 2.4, 2.5, 2.8, 2.8, 2.8, 2.4, 2.4, and 2.4 feet, giving a mean of 2.56 feet for the true crater radius. Hence, for the equivalent of 6.75 pounds of grade N. S., we find:

$$C = \frac{1}{17} \left[3.75 - \frac{7}{8} (3.75 - 2.56) \right]^3 = 1.17 \text{ pounds of explosive gelatin.}$$

These trials demonstrate that jovite N. A. powder is not detonated with a primer charged with 24 grains of mercuric fulminate, and that when 48 grains are employed its intensity of action as compared with explosive gelatin is in the ratio of $\frac{2.84+2.79}{2}$ to 6.75, or 0.42. Also that jovite N. S. powder is more sensitive to a detonator than the other grade tested, but that it is not safe to depend on 24 grains of mercuric fulminate to determine an explosion of the first order, since it manifestly failed to do so once out of three trials. Since the first two trials are fairly accordant in their indications it may be assumed that with full detonation (rejecting the fifth shell) the intensity of action as compared with explosive gelatin is in the ratio of $\frac{3.65+3.78}{2}$ to 6.75 or 0.55.

The relative merit of different high explosives for use in shells may be estimated by their earth-lifting power when forming craters in earthen parapets. This power is measured by the product of their intensities determined as above by their density of loading. The latter is measured relatively by the weight which can be inserted in the standard shell. The first lot of these shell had a capacity of 192 cubic inches, but in the lot now in use this had been reduced to 186 cubic inches. The former is adopted as the standard, and the charge of 6.75 pounds should be increased in this ratio, making it 6.97 pounds. The relative merit of these two grades of jovite as compared with emmensite and wet gun cotton is therefore as follows:

Jovite N. A. powder.....	0.42 × 6.97 = 2.93
Jovite N. S. powder.....	.55 × 6.97 = 3.83
Emmensite.....	.56 × 9.80 = 5.49
Wet gun cotton .....	.51 × 6.27 = 3.95

In view of these ratios of relative merit, joined to the fact that no explosive which can not be certainly detonated with 24 grains of mercuric fulminate is suited for use in charging shells, your committee do not recommend further trials with jovite. Respectfully submitted.

HENRY L. ABBOT,
Colonel of Engineers, Bvt. Brig. Gen., U. S. A.
FRANK H. PHIPPS,
Major, Ordnance Department, U. S. A.

Lient. Gen. JOHN M. SCHOFIELD,
President Board of Ordnance and Fortification.

The Jovite Manufacturing Company has requested another trial of their explosive, alleging that an error was made in manufacturing and packing the sample tested by the committee, and it will be further tested as soon as the necessary samples are furnished.

ESTIMATES FOR THE COMING YEAR.

At its meeting of September 24, 1895, the Board prepared the following estimate of funds that will be required for the ensuing fiscal year:

For the construction of a 12-inch disappearing gun carriage.....	\$45,000
For test of same. 50 rounds.....	10,050
Test of experimental guns, carriages, etc., and for new experimental ordnance material	20,000
For platforms for experimental gun carriages.....	25,000
For experimental armor plate with a view to procuring satisfactory armor-piercing and deck-piercing projectiles and observing the effect of high-power guns upon armor plate generally	50,000
For further experiments with smokeless powders to determine the best types for guns of all calibers.....	30,000

Tests of experimental seacoast cannon, including mortars and rapid-fire guns.	\$25,000
Tests of high explosives, with a view to determining a suitable material for charging shell, including purchase of projectiles, alteration of obsolete cannon, etc.	10,000
Development of instruments and systems in connection with the regulation of seacoast artillery fire, including the purchase of range finders, relocators, and expenses of tests.	10,000
Expenses of Board, including salary of civilian member.	10,000
Miscellaneous contingencies, including the investigation and test, if found meritorious, of all devices brought to the notice of the Board, not embodied in previous items.	10,000
Total	245,050

These sums are based upon the experience of the Board as to its requirements during the last four years, and are believed to show very closely the amounts under the several heads that can be used by the Board to the advantage of the United States. It is recommended that the appropriation be made as heretofore, in a single amount for the general purpose of ascertaining what military appliances it will be most advantageous to adopt for the service.

The appropriations for the last two years have been only \$100,000 each year, but in both years the actual allotments of the Board have been considerably in excess of this amount, the remnants of previous large appropriations having been drawn upon. Had not these additional sums been on hand the work of the Board would have been seriously hampered. The appropriations for previous years are now about exhausted, and it is therefore hoped that the amounts asked for by the Board will be granted.

CONCLUSION.

The work of providing a proper armament for our harbors is progressing steadily and on a sound basis, but so slowly that at the rate appropriations have been made during the last ten years it would take at least fifty years to place our seacoast in proper condition of defense. It is of national importance and an imperative necessity that the work of fortifications should be pressed with vigor. The plans for guns, carriages, and emplacements are perfected, and a liberal and constant annual appropriation should be made until our principal ports are properly protected. Such an expenditure will be a wise insurance against the sacrifice of many of our most important cities which would reasonably occur in ten days' time of actual war in our present condition.

After building magnificent workshops it will be false economy to fail to support them at their full capacity. The greater their output the more cheaply the work can be done.

The Board is well satisfied with the advance made during the year in perfecting military appliances. The principal elements of the problem of defense may be regarded as solved, and only details and elaborations remain. With a sufficient supply of the guns, carriages, and other munitions of war actually adopted we would have a formidable armament.

For the future, advancement seems to be indicated along the following lines:

- (1) The development of smokeless powders.
- (2) The development of a high explosive that can be safely discharged in a shell at a high velocity with certainty of detonation.
- (3) The selection of a disappearing carriage for 12-inch guns.
- (4) The investigation of armor plate for seacoast forts.
- (5) The development of rapid-fire, field, and seacoast guns.

(6) The development of an efficient system of fire control for harbor defenses.

All of these objects will receive the attention of the Board during the coming year.

In closing this, its fifth annual report, the Board would again urge that a definite annual appropriation for seacoast fortifications and armament be made, and to this end we earnestly recommend that \$2,000,000 be appropriated for engineer work in the construction of emplacements, fortifications, and necessary works; also that \$5,000,000 be appropriated for the construction of guns, mortars, gun carriages, seacoast armament, and ammunition.

NELSON A. MILES,

Major-General, Commanding U. S. Army, President of the Board.

ROYAL T. FRANK,

Colonel First Artillery, U. S. Army.

PETER C. HAINS,

Colonel of Engineers, U. S. Army.

FRANK H. PHIPPS,

Major, Ordnance Department, U. S. Army.

JOSEPH H. OUTHWAITE,

Civilian Member Board of Ordnance and Fortification.

J. C. AYRES,

Captain, Ordnance Department, U. S. Army,

Recorder Board of Ordnance and Fortification.

APPENDIX A.

Table showing allotments made by the Board of Ordnance and Fortification from October 31, 1894, to October 31, 1895, including statements of unexpended balances under the several appropriations.

ACT OF SEPTEMBER 22, 1888.

All of the funds available for allotment under this appropriation have been expended (see p. 36, last annual report).

ACT OF MARCH 2, 1889.

Total allotted, expended, and reverting to Treasury to October 31, 1894 (see last annual report)	\$1, 250, 819
Allotted from October 31, 1894, to October 31, 1895.....	.....
Total allotted to date.....	1, 250, 819
Total appropriated under this act.....	1, 289, 504
Total allotted, expended, and reverting to Treasury to October 31, 1895.....	1, 250, 819
	38, 775
Reappropriated in act of August 18, 1890 (see first report of Board, p. 37).....	14, 000
Balance available for allotment.....	24, 775
This balance is available only for the purchase of movable submarine torpedoes.	

ACT OF AUGUST 18, 1890.

Purpose of allotment.	Date.	Amount.
For the purchase by the Chief of Ordnance of a second Weldon range finder, as recommended by the Board on Range and Position Finders	1894. Nov. 20	\$25. 00
To enable the Chief of Ordnance to purchase for the United States the right to manufacture emmensite, including all such instructions as may be necessary to successfully produce this explosive.....	1895. Feb. 12	5, 000. 00
For the purchase abroad of 12 Weldon range finders for issue to field batteries of artillery and to the schools of instruction at Forts Leavenworth and Riley, for practical test under field conditions.....	Sept. 23	186. 00
Total		5, 211. 00

Total allotted and expended to October 31, 1894 (see last annual report).....	\$3, 831, 820. 33
Allotted from October 31, 1894, to October 31, 1895.....	5, 211. 00
Total allotted and expended to date.....	3, 831, 820. 33
Total appropriated under this act.....	3, 832, 995. 00
Total allotted and expended to date of this report.....	3, 831, 820. 33
	1, 114. 67
Reappropriated from act of March 2, 1889 (see first report of Board, p. 37).....	14, 000. 00
Balance available for allotment.....	15, 114. 67

ACT OF FEBRUARY 24, 1891.

All of the funds available for allotment under this appropriation have been expended (see p. 37, last annual report).

ACT OF JULY 23, 1892.

Purpose of allotment.	Date.	Amount.
For the necessary expenses of the Board (see also acts of 1893, 1894, and 1895)....	1894. Nov. —	\$299. 27
For the purchase of forgings for and the manufacture of a new type breech mechanism for the 12-inch B. L. steel mortar, and for sufficient ammunition for firing 50 rounds for its test.....	1895. Sept. 24	7, 833. 00
Total		8, 132. 27
Allotted and expended to October 31, 1894 (see p. 37, last annual report).....		\$209, 700. 73
Revocation of allotment (September 24, 1895).....		7, 833. 00
		201, 867. 73
Allotted and expended from October 31, 1894, to October 31, 1895		8, 132. 27
Total allotted and expended to date		210, 000. 00
Total appropriated under this act		210, 000. 00
Total allotted and expended.....		210, 000. 00

REVOCATION OF ALLOTMENT.

Seven thousand eight hundred and thirty-three dollars of the allotment of \$10,000 made November 16, 1892, for the test of 12-inch mortar carriages, September 24, 1895.

NOTE.—Since the funds appropriated for the use of the Board under the acts approved February 18, 1893, August 1, 1894, and March 2, 1895, are for precisely the same purposes (Board of Ordnance and Fortification) and are continuous, the following allotments have been deducted from the total sums appropriated for the use of the Board during the last three years (\$375,000) without regard to the year in which the several appropriations have been made.

Fortification acts approved February 18, 1893, August 1, 1894, and March 2, 1895.

Purpose of allotment.	Date.	Amount.
To enable the Chief of Ordnance to defray additional expenses connected with the Lewis range finder.....	1894. Nov. 20	\$44. 75
For the purchase by the Chief of Ordnance of an improved Lewis range finder, type "A," suitable for an elevation between 30 and 100 feet, and for ranges from 800 to 10,000 yards.....	do ..	2, 000. 00
For expenditures by the Chief of Ordnance for such labor and material as may be required in connection with the work of the Board on Range and Position Finders	do ..	250. 00
For expenditures under the direction of the Chief of Ordnance in connection with the test of 12-cm. rapid-fire guns.....	Dec. 12	1, 000. 00
Additional for the purchase by the Chief of Ordnance of an improved Lewis range finder.....	do ..	500. 00
For disbursement under the supervision of the Chief of Ordnance for such work and material as may be required by the Board on the Regulation of Seacoast Artillery Fire.....	do ..	200. 00
To enable the Chief of Ordnance to procure 100 rounds of ammunition for the 8-inch converted rifle for issue to the Board on the Regulation of Seacoast Artillery Fire for experimentation in connection with its work.....	do ..	2, 100. 00
For repairing certain breakages to the Gordon 12-inch mortar carriage.....	Dec. 13	824. 00
To enable the Chief of Ordnance to discharge the liabilities of his Department called for in the contract for the modified Gordon 10-inch disappearing gun carriage	1895. Jan. 8	31, 800. 00
To enable the Chief of Ordnance to employ a draftsman for a period not exceeding 2 months to assist the Board on the Regulation of Seacoast Artillery Fire in the preparation of such charts, drawings, etc., as it may require.....	do ..	150. 00
To enable the Chief of Engineers to procure and lay a 3-cored submarine cable between Forts Hamilton and Wadsworth, New York Harbor.....	do ..	1, 750. 00
For expenses connected with rapidity tests with 8, 10, and 12-inch guns mounted on barbette carriages.....	do ..	3, 563. 46
For the purchase of 2 lightning arresters and 2 small switch boards for use of the Board on the Regulation of Seacoast Artillery Fire.....	do ..	50. 00
For the purchase of 40 rounds of ammunition from the Driggs Ordnance Co. for experimental firings with the Driggs 12-pounder rapid-fire field gun mounted on a minimum-recoil carriage.....	Feb. 12	200. 00
To defray expenses of certain experimental firings from the 16-mortar battery at the Sandy Hook Proving Ground.....	do ..	2, 500. 00
To enable the Chief of Ordnance to erect at the Sandy Hook Proving Ground a suitable building for photographic purposes in connection with the experimental work in progress at that place.....	Feb. 13	500. 00
For the purchase from the Morgan Engineering Co. of the engine furnished by that company to operate the Gordon 10-inch disappearing gun carriage.....	Mar. 12	350. 00
For the purchase by the Chief of Ordnance of the 12-cm. R. F. Seabury gun now at the Sandy Hook Proving Ground, provided the gun is in serviceable condition after the completion of the programme indicated by the Board in its proceedings of Jan. 22, 1892	do ..	4, 200. 00

Fortification acts approved February 18, 1893, August 1, 1894, and March 2, 1895—Cont'd.

Purpose of allotment.	Date.	Amount.
To enable the Chief of Ordnance to have the necessary foundation and house constructed for the new Lewis range and position finder at Fort Hamilton....	1895. Mar. 13	\$250.00
For additional expenses in connection with experimental firings from the 16-mortar battery at the Sandy Hook Proving Ground.....	do ..	300.00
To enable the Chief of Ordnance to erect a suitable platform for the second 10-inch pneumatic disappearing gun carriage, and for the test of the carriage....	Apr. 16	19,500.00
To enable the Chief of Ordnance to have the experimental platform at the Sandy Hook Proving Ground adapted to 8 and 10 inch disappearing gun carriages ..	Apr. 17	1,204.45
To enable the Chief of Ordnance to purchase for the Board on the Regulation of Seacoast Artillery Fire 20 chestnut telegraph poles 30 feet long, 20 wooden cross arms, and 200 glass insulators and plugs	Apr. 18	100.00
To enable the Chief of Ordnance to have a type polarizing photochronograph constructed for the Government under the supervision of the inventors, Lieut. G. O. Squier and Prof. A. C. Crehore.....	May 13	2,225.00
To enable the Chief of Ordnance to procure a Millar converter board for test by the Board on the Regulation of Seacoast Artillery Fire.....	May 14	200.00
To enable the Chief of Ordnance to have constructed certain parts of sights for the 8-inch converted and the 8-inch service B. L. rifles for the development of the telescopic sights invented by Lieut. C. D. Parkhurst, Fourth Artillery.	June 18	105.00
For the construction of 1 Lewis elevation indicator	do ..	15.00
For the purchase of ammunition and for other ordnance expenses in connection with the tests of the gun-lift battery at Sandy Hook	June 20	3,000.00
To enable the Chief of Engineers to defray expenses connected with the test for rapidity of the experimental gun-lift battery at Sandy Hook Proving Ground and to care for and operate the same at such other firings as may be necessary in the current work of the proving ground during the fiscal year ending June 30, 1896	do ..	5,000.00
For 50 Eureka 8-inch shell for use by the committee on high explosives in subterra shell trials	July 16	612.50
For the reconstruction at the Sandy Hook Proving Ground of the traverse surrounding the battery used for experiments in high explosives.....	do ..	500.00
For 75 4-inch common shell, 100 primers, and 25 cartridge cases for test of Driggs-Schroeder rapid-fire gun.....	do ..	677.00
To enable the Chief of Ordnance to procure forgings for and do the work of fitting a service 3.2-inch field gun, model 1885, with the Fletcher breech mechanism, for use with metallic ammunition.....	do ..	1,375.00
For the purchase of 353 pounds No. 12 B. and S. gauge bare copper wire, 100 pounds No. 12 B. and S. gauge insulated wire, 100 painted oak brackets, 100 glass insulators, and 40 Le Clanché cells complete, for use by the Board on the Regulation of Seacoast Artillery Fire	do ..	55.11
For the purchase of the second Fiske range and position finder (drum type).....	do ..	4,275.00
Additional to defray cost of moving and mounting gun for test of Ericsson aerial subaquatic projectiles and to cover incidental expenses pertaining to their test.	Aug. 6	150.00
For preparation of necessary drawings in connection with the work of fitting a service 3.2-inch field gun, model 1885, with the Fletcher breech mechanism.	do ..	90.00
For the purpose of fitting a 3.2-inch field gun, model 1885, with the Seabury breech mechanism, to convert it into a rapid-fire gun for use with fixed ammunition	do ..	1,420.00
For procuring a new metallic arm for the Raftery relocater.....	do ..	40.00
For the purchase of 3 Lewis range and position finders for test in service at such artillery posts as the War Department may designate.....	do ..	5,250.00
For reimbursement to Lieutenant Squier and Professor Crehore for expenses incurred by them in developing their polarizing photochronograph upon presentation of itemized vouchers	Aug. 7	161.73
For the purchase of a detector galvanometer for the use of the committee on high explosives in subterra shell trials	Sept. 23	25.00
Additional for fitting a 3.2-inch B. L. field gun, model 1885, with the Seabury breech mechanism to convert it into a rapid-fire field gun for use with fixed ammunition.....	do ..	106.00
To enable the Chief of Ordnance to procure forgings for and do the work of fitting a 3.2-inch field gun, model 1885, with the Dashiell breech mechanism....	do ..	1,584.00
For the purchase of 4 Swiss stop watches, registering quarter seconds up to 10 minutes, for use in the experimental work of the Board on the Regulation of Seacoast Artillery Fire	do ..	28.00
Additional for the manufacture of a converter board of Lieut. E. A. Millar's design	do ..	50.00
For the purchase of a second Raftery relocater for use in connection with the experimental work of the Board on the Regulation of Seacoast Artillery Fire....	do ..	350.00
For the purchase of a rapid fire field gun carriage for the 3.2-inch gun to be manufactured on the plans of the Driggs Ordnance Co.....	Sept. 24	2,000.00
For the completion of the test of the 8-inch and 10 inch Crozier-Buffington disappearing gun carriages	do ..	1,200.00
For defraying the cost of removal from its present site and storing the Gordon 10 inch disappearing gun carriage	do ..	300.00
To enable the Chief of Ordnance to procure a suitable chemical extinguisher for use in protecting the experimental plant at the Sandy Hook Proving Ground.	do ..	500.00
For overhauling and repairing telephone lines leading from the battery to the targets down the beach at the Sandy Hook Proving Ground.....	Oct. 22	150.00
For the erection of 2 shelter houses, 1 at Fort Wadsworth and 1 at Fort Hamilton, for relocating and converting instruments to be used by the Board on the Regulation of Seacoast Artillery Fire	do ..	500.00

Fortification acts approved February 18, 1893, August 1, 1894, and March 2, 1895—Cont'd.

Purpose of allotment	Date.	Amount.
For providing for the installation and operation of the printing telegraph system of the Consolidated Telegraph and News Co. for experimental purposes...	1895. Oct. 22	\$75.00
Additional for the purchase of the Millar converter board	do	100.00
For the necessary changes in the old Lewis range and position finder now at Fort Wadsworth to make it conform as far as possible to the latest model...	do	550.00
For the necessary expenses of the Board (including transfer of funds for stationery \$157.36) from Oct. 31, 1894, to Oct. 31, 1895 (see also act July 23, 1892)...		9,138.91
Total		115,284.94
Total allotted and expended to October 3, 1894 (see last annual report).....		\$154,863.30
Allotted and expended from October 31, 1894, to October 31, 1895.....		115,284.94
Total allotted and expended to date.....		270,268.24
Total appropriated under these acts.....		375,000.00
Total allotted and expended.....		270,268.24
Balance available for allotment.....		104,731.76

SUMMARY TO OCTOBER 31, 1895.

Act.	Total appropriations.	Total allotments, expenditures, and reverting to Treasury	Total balances on hand not allotted or expended.	Total allotments and expenditures from Oct. 31, 1894, to Oct. 31, 1895	Allotments re-voled from Oct. 31, 1894, to Oct. 31, 1895.	Total net allotments from Oct. 31, 1894, to Oct. 31, 1895 (including necessary expenses).
Fortification act of Sept. 22, 1888.....	\$3,972,000.00	\$3,972,000.00				
Army appropriation of Mar. 2, 1889.....	56,000.00	3,156.20	52,843.80			
Fortification act of—						
Mar. 2, 1889.....	1,233,594.00	1,194,819.00	\$24,775.00			
Aug. 18, 1890.....	3,832,935.00	3,831,830.33	15,114.67	\$5,211.00		\$5,211.00
Feb. 24, 1891.....	2,290,803.00	2,290,803.00				
July 23, 1892.....	210,000.00	210,000.00		8,132.27	\$7,633.00	299.27
Feb. 18, 1893, Aug. 1, 1894, and Mar. 2, 1895.....	375,000.00	270,268.24	104,731.76	115,284.94		115,284.94
Total	11,970,332.00	11,825,710.57	144,621.43	128,628.21	7,633.00	120,795.21
Total allotments.....						\$11,737,171.20
Total expenditures for necessary expenses of Board.....						35,886.48
Total turned into Treasury.....						443.80
Total reverting to Treasury by lapse of appropriation.....						62,406.60
Grand total						11,835,710.57

NOTE. Of this amount the sum of \$24,775 is available only for movable submarine torpedoes, for which it was exclusively appropriated, and the sum of \$4,500 is available only for the manufacture of 8, 10, and 12 inch seacoast guns by private parties which renders it practically unavailable for allotment.

APPENDIX B.

OFFICE OF THE CHIEF OF ORDNANCE,
UNITED STATES ARMY,
Washington, D. C., December 10, 1894.

SIR: Referring to the proceedings of the Board of Ordnance and Fortification of August 22, 1894, which provided an allotment for a new mount for the Robertson two-barrel machine gun and for fitting the gun with barrels of .30 caliber in place of .45 caliber, etc., I have the honor to transmit herewith a copy of the report, dated November 20, 1894, of a board of officers by whom the altered gun and mount were tested at the Springfield Armory.

Two previous trials of this gun have been made, as referred to in my letters of January 4 and April 18, 1894. The present trial was intended to demonstrate whether, if provided with a light and compact mount, the gun could be considered a valuable arm for special service "with flying columns in mountainous districts and with the fighting line."

The results of the trials do not warrant the recommendation that this gun be adopted for the military service.

The gun deserves commendation for its performance, but it is not adapted to replace other known machine guns in permanent or semi-permanent positions, and its utility for the special service mentioned, even if present objectionable features of construction were remedied, can not be considered sufficient to offset the disadvantage of an arm requiring a special supply of ammunition and of limited usefulness. Moreover, in view of the introduction of the infantry magazine rifle, the rapidity and availability of fire to be derived from a small squad of men armed with the rifle can be considered superior to that of the gun.

Very respectfully,

D. W. FLAGLER,
Brig. Gen., Chief of Ordnance.

The SECRETARY OF WAR.

Proceedings of a board convened by the following order:

POST ORDERS, No. 59.

SPRINGFIELD ARMORY, MASS., *November 20, 1894.*

[Extract.]

1. A board of officers is hereby appointed to meet at this armory on Thursday next, the 22d instant, to make a further test of and report upon the Robertson machine gun on its tripod mount in accordance with instructions of the Chief of Ordnance of October 4, 1894.

Detail for the board: Capt. D. M. Taylor, Ordnance Department; Capt. James Rockwell, jr., Ordnance Department; Lieut. J. T. Haines, Fifth Cavalry; Lieut. Tracy C. Dickson, Ordnance Department.

By order of Col. A. Mordecai:

TRACY C. DICKSON,
First Lieut. Ordnance Department, U. S. A., Post Adjutant.

SPRINGFIELD ARMORY, *December 3, 1894.*

The board met pursuant to the above order, all the members being present, and adjourned from day to day to continue the tests.

Mr. Robertson, the inventor, was present. The gun on its mount was first fired into a butt to determine its safety and action with Winchester, Union Metallic Cartridge Company, and Frankford Arsenal ammunition. Ten Winchester cartridges were fired, when the gun failed to work, due to a shell having pulled apart about half an inch in front of the head. Nine Frankford rounds were then fired with satisfactory results, and also 18 of the Union Metallic Company's.

The inventor admitted that he was afraid to fire the Union Metallic Company's cartridges with ordinary rapidity because of the dangers resulting from hangfires, and throughout the tests, at the request of the board, the firing was done by him, and it was evident that he was not confident of the safety of his gun with the charges of smokeless powders as prepared by others than the Government at Frankford Arsenal.

One hundred and four rounds of the Frankford ammunition were fired in twenty-two seconds, with escape of gas around eleven primers, but no punctures.

A reel of 104 rounds (Frankford) was run through the gun in twenty-seven seconds, firing at a target 200 yards distant and the bullets fell within an oval of about 3 by 2 feet. Eight of the cartridges were not fired, and great difficulty was experienced in turning the crank, due to hangfires and the presence of unburned grains of powder in the chambers. The eight were afterwards fired, but at a much slower rate, and their failure to explode was due to a weak firing-pin spring. This target showed a gradual rise from the sighting shots of about 3 feet, which was largely due to the soft nature of the ground (ordinary grass turf) on which the tripod mount stood.

One hundred and four rounds (Frankford) were fired at 500 yards range in thirty-two seconds with one missfire and several hangfires, which caused the crank to be turned with much difficulty. The frame and lock work were cool, but the barrels were hot. The elevation given the gun did not change during the firing. One hundred and four more rounds (Frankford) were fired in twenty-two seconds with no missfires. The forward end of the frame was hot, lock work cool, but barrels hot enough to char paper. The target at 500 yards showed a rise in the bullets similar to that at 200 yards.

The gun was then placed 1,000 yards from the target and 104 rounds (Frankford) were fired in twenty-six seconds, with no missfires, but several hangfires were noticed. The muzzle worked up during the firing. This rise is believed to be due to the mount not having been firmly settled before firing. One hundred and four more rounds were fired in twenty seconds, with no missfires, and the elevation given the gun remained unchanged. As in previous firings, the barrels were so hot as to char paper. The targets made at this range were good. An examination of the rifling after cleaning the barrels showed that the shoulders of the lands were much worn and that the grooves were torn in places. As it is highly improbable that this could have been produced

by the little firing done by the board it is presumed that they were in this condition when turned over at this armory by the inventor. Considering their condition and the fact that the sights are incorrectly graduated for this gun, the targets were, on the whole, very creditable.

The gun and its mount were moved by two men about 100 yards with a view to determine its portability, but the heat in the barrels resulting from firing 104 rounds was sufficiently great to render its handling difficult, and the form and weight of both gun and mount are such as to make either a cumbersome and unwieldy burden for one man.

From the tests made the board finds that the targets made were, on the whole, good; that the heating of the barrels would in service prove a serious obstacle to its portability, which would be increased by the shape and size of both gun and mount; that in case a cartridge should hang fire until the barrels were moved forward and then explode the feed mechanism at least would undoubtedly be damaged and the gun rendered unserviceable, and that the tendency to hang fire is quite noticeable with the smokeless powders used; that the more rapid the firing the greater is the liability to the dangers from hangfires; that the shape of the trail is such that the operation of firing with the mount on ordinary soil tends to force down its lower end and consequently to raise the muzzle; that the belt used can not be loaded without special implements for that purpose, and as the gun can not be fired unless fed with the belt its use in the field would depend upon the supply of previously loaded belts, which the board considers a grave defect in the system; that the mount is in such a form as to cover a triangular space about 5 feet 3 inches long by 2 feet 6 inches wide, and, while it has a trail and two legs, yet its shape will not allow it to adapt itself to ground of irregular formation, as is the case of the tripod with legs of equal length; that the present formation of the lower ends of the front legs is such that they sink during the operation of firing in soils usually met with, thereby being a source of constant change to the aim unless they are previously firmly settled, which requires time; that difficulty is experienced with this mount in getting the axes of the barrels in the same horizontal plane; that the mount weighs 80½ pounds and its shape is not adapted to packing on a mule; that the gun and its attachments have the same weight, but the elevating bar is not constructed so as to fold upon the bottom of the gun, which, together with its shape, distribution of its weight, and reel holder, render its packing difficult; and that the mount, the gun and its attachment, and a reasonable supply of ammunition, if maneuvered by a detachment as large as four men, could not be termed a portable weapon.

Assuming that this gun and its mount are portable by hand or by pack animals, and that the several imperfections are remedied, yet the board is of the opinion that it has no place in the military service, because four men armed with the United States magazine rifle can deliver nearly as many rounds far more accurately aimed in the same length of time as the same number of men manipulating this gun.

Tactically, the four men with rifles on the skirmish line or in rough or mountainous country would be able to find cover more easily, to move much more rapidly, and do more damage than with this gun on this or other mounts.

Moreover, this mount simply provides a fighting support for the gun, and for its transportation a wagon or some other wheeled vehicle must be provided.

For use against masses or in permanent or even semipermanent position its rapidity of fire compared with that of other machine guns

would condemn it. First Lieut. J. T. Haines, Fifth Cavalry, was present during the practical tests, but was absent with leave when the board drew up its report.

There being no further business before the board it adjourned sine die.

D. M. TAYLOR,
Captain, Ordnance Department.

JAS. ROCKWELL, Jr.,
Captain, Ordnance Department.

TRACY C. DICKSON,
Lieutenant, Ordnance Department.

The forgoing proceedings and opinions of the board are approved.

A. MORDECAI,
Colonel, Ordnance Department, Commanding.

APPENDIX C.

FORT HAMILTON, NEW YORK HARBOR,
June 25, 1895—11 a. m.

The board met pursuant to the call of the president.

Present: Lieut. Col. A. C. M. Pennington, Fourth Artillery; Lieut. Col. M. P. Miller, First Artillery; Maj. John G. D. Knight, Corps of Engineers; Capt. D. M. Taylor, Ordnance Department; First Lieut. Edward Davis, Third Artillery; First Lieut. Henry L. Harris, First Artillery.

The board then examined the new Fiske position finder (drum type) and also the new Lewis range and position finder for low elevations.

The board then observed the work of the Standard instrument and that of the Lewis and Fiske on the same points at the same time, with the results given in the appended table.

During the test of the Fiske instruments on movable objects, observations were attempted at thirty-second intervals. The expert observer was unable to take reading at this frequency, whereupon intervals were extended to one minute. Lieutenant Fiske started to assist the observer, and the two together succeeded in completing observations and their records in from twenty-five to thirty seconds. The inference is that two observers at the main station, or three in all, could take the observations at thirty-second intervals, but that one observer would require intervals of somewhat greater length.

The board then tested the Fiske position finder with reference to the parallelism of the telescope at its B station with its corresponding arm at the A station with the following results:

	Station A.			Station B.	
	°	'	"	°	'
1.....	18	50	0	18	15
2.....	345	0	0	345	0
3.....	60	2	30	60	0
4.....	44	1	40	44	0
5.....	50	2	0	50	0
6.....	2	0	40	2	0

The board records the base line of the new Fiske instrument as installed at Fort Hamilton to be 985.927 yards. The board also submits herewith the work done by observations with this instrument under the supervision of the executive officer of the board, Lieutenant Harris, and the board finds that the instrument complies with the requirements of the Board of Ordnance and Fortification contained in the extract of its proceedings of November 20, 1894, which was referred to this board.

The board then adjourned to meet at Fort Wadsworth, New York Harbor, June 26, 1895, at 10 a. m.

EDW. DAVIS,
First Lieutenant, Third Artillery, Recorder.

FORT WADSWORTH, NEW YORK HARBOR,

June 26, 1895—10 a. m.

The board met pursuant to adjournment of the 25th instant.

Present, all the members.

The board proceeded to examine the Watkin depression range finder marked as follows:

Graduated to elevations from 80 to 200 feet.

The drum is graduated from 450 to 10,000 yards.

From 450 to 2,500 yards it is graduated for every 10 yards.

From 2,500 to 4,000 yards it is graduated for every 25 yards.

From 4,000 to 5,000 yards it is graduated for every 50 yards.

From 5,000 to 10,000 yards it is graduated for every 500 yards.

A test was made by tracking moving objects in the lower New York Bay with one-minute intervals, comparing the results with those obtained with observations with the Standard instrument taken at the same time, with the results exhibited in the appended table.

The board then adjourned to meet at Governors Island, New York Harbor, in the afternoon of the same day.

EDW. DAVIS,

First Lieutenant, Third Artillery, Recorder.

GOVERNORS ISLAND, NEW YORK HARBOR,

June 26, 1895—3 p. m.

The board met pursuant to adjournment at Fort Wadsworth in the morning of the same day.

Present, all the members.

The board then proceeded to examine the following range finder which had been referred to it by the Board of Ordnance and Fortification: The Aide-Tireur of Colonel Whish and the Unge, respectively both of which no conclusion was reached pending additional test by the executive officer of the board. The board did not test "Gordon," as it belongs to the class of instruments which, as a class, was reported upon adversely on April 15, 1894, and which action met with the approval of the Board of Ordnance and Fortification and that of the Secretary of War.

The board examined again the Weldon field range finder, which finds to be small, compact, very little liable to derangement, requiring no adjustment, and is evidently of small cost. This instrument combines both the prism necessary for measuring ranges and a declinator. This board is of the opinion that the Weldon instrument is of such merit as to justify its being subjected to the more severe test incident to field use, and therefore, with a view to such tests, the board recommends, if practicable, that each field battery, and the schools of instruction at Forts Leavenworth and Riley be provided with one of these instruments, with instructions to test it under field conditions and to report upon the same.

The board reports that on January 10, 1891, it recommended with reference to the Ruckman-Crosby range finder at Fort Monroe, Va., as follows:

Generally it may be said that the invention is as yet unperfected and requires development as noted. A machine which furnishes the track of a moving target as this instrument does, and which automatically records it on a harbor chart, without obstructing the view of this track by any of its mechanism, merits study.

This instrument, which is now the property of the United States, should be under the charge of the commanding officer of the Artillery School, and its inventors invited and encouraged to further develop it on lines suggested or to be suggested by them or others after the approval of such suggestions by the Board of Ordnance and Fortification, and at the expense of the Government.

It is recommended that suggestions of others than the inventors be submitted to the latter for remark before final action by the Board of Ordnance and Fortification.

The board understands that no action has been taken by the inventors under this recommendation; it is therefore further recommended that this instrument be transferred to the control of the commanding general, Department of the East, for experiment and development at such post in his department as he may designate.

A. C. M. PENNINGTON,
Lieutenant-Colonel, Fourth Artillery, President.

EDW. DAVIS,
First Lieutenant, Third Artillery, Recorder.

EXTRACT OF THE PROCEEDINGS OF THE BOARD TO TEST RANGE AND POSITION FINDERS INSTITUTED BY SPECIAL ORDERS, NO. 249, ADJUTANT-GENERAL'S OFFICE. 1890, RESPECTFULLY FURNISHED THE ORDNANCE AND FORTIFICATION BOARD.

ROOM 250, WAR DEPARTMENT,
Washington, D. C., July 30, 1895—11 a. m.

The board met pursuant to the call of the president.

Present: Lieut. Col. A. C. M. Pennington, Fourth Artillery; Lieut. Col. M. P. Miller, First Artillery; Maj. J. G. D. Knight, Corps of Engineers; Capt. D. M. Taylor, Ordnance Department; First Lieut. Edward Davis, Third Artillery, recorder; First Lieut. Henry L. Harris, First Artillery, executive officer.

The record of the proceedings of the meeting of the board on June 25 and 26 was read by the recorder and approved by the board.

The annual report of the executive officer, Lieutenant Harris, dated Governors Island, N. Y., July 27, 1895, was read by the recorder and the board decided, at the suggestion of the executive officer, that further tests be made by him with the Aide-Tireur and Unge instruments.

In view of the report of the executive officer of the board concerning the faulty work, due to original defects which could not be corrected, of the base-end instruments which have been used as standards in testing all other instruments, it was—

Resolved, That a subcommittee of the board take up the subject of two standard base instruments with a view to making plans and estimates to be submitted directly to the Board of Ordnance and Fortification with a request for an allotment to purchase the same.

These instruments, if purchased, should only be used for the purpose of testing other instruments, and also by the Board on the Regulation of Seacoast Artillery Fire in its work under the Board of Ordnance and Fortification.

It was further resolved, That the subcommittee be composed of Lieutenant-Colonel Pennington, Lieutenant-Colonel Miller, and Lieutenant Harris, all of whom are stationed in New York Harbor.

Resolved further, That this board having concluded its tests of the Lewis and Fiske range finders at Fort Hamilton, it recommends that for the present these instruments be placed under the control of the Board on Regulation of Seacoast Artillery Fire, the executive officer of the Range and Position Finder Board, being a member of both boards, to make report to the Range and Position Finder Board of the results of such tests made.

It was further resolved, That in the opinion of this board the Lewis range finder, for vertical bases between 30 and 100 feet in length, is well adapted to service; that equal accuracy of results and adaptability to service conditions are to be expected from the two other types of the Lewis range finder for vertical bases between 100

and 200 feet, and 200 and 400 feet in length. Therefore the time seems opportune to report to the Board of Ordnance and Fortification that no reason is known why instruments of these two types should not be constructed.

A. C. M. PENNINGTON,
Lieutenant-Colonel, Fourth Artillery, President.

EDW. DAVIS,
First Lieutenant, Third Artillery.

REPORT OF EXECUTIVE OFFICER OF THE BOARD ON RANGE AND POSITION
FINDERS.

GOVERNORS ISLAND, N. Y., *July 27, 1895.*

SIR: In compliance with your instructions I have the honor to submit the following report of progress since the board made its annual report for 1894.

The board has inspected all the instruments named below, except the Zalinski position finder, and has witnessed tests of the same.

Fiske position finder, model of 1895.—This instrument has been completed and has passed its acceptance test. The records of the tests made show that in almost every instance the accuracy of range given was within 1 per cent. More exhaustive tests will be made during the coming season to determine just how far this instrument will answer service conditions, and to what degree of approximation it can be depended on for varying ranges.

Lewis position finder, model of 1895.—Three types of this instrument were recommended to be made—one for heights between 30 and 100 feet, one for heights between 100 and 200 feet, and one for heights between 200 and 400 feet.

An instrument representing the first type has been completed and set up at Fort Hamilton. The average height of telescope above water level is about 58 feet.

As with the Fiske instrument there has not been sufficient time since completion to make any exhaustive tests to show what accuracy can be relied on.

These tests will be made during the coming season.

Zalinski position finder.—This instrument has not yet been presented for test.

Watkins depression range finder.—Further tests have been made with this instrument which show fairly good results up to 4,000 yards range.

Standard base instruments.—On the recommendation of our board an allotment was made by the Board of Ordnance and Fortification to enable us to use the telescopes and other portions of an old position finder at Fort Wadsworth in constructing two azimuthing instruments for Stations H and W, respectively.

The two circular plates were graduated to degrees and an idle traveler was attached to the telescope bar and worked a combination of gearing in such a way that a light pointer fastened to one of the primers of the gear indicated the minutes. This traveler runs on the cylindrical surface of the circular plate, and owing to a slight eccentricity in the center bearing of the bar (which was not noticed until the alterations had been commenced) the combination does not work with absolute accuracy under all circumstances.

The amount expended in this experimental work was a comparatively small one. The result is not satisfactory, and this is due, not to defective principle, but to a defect in original construction which could not be remedied.

Field range finders.—Tests of the Weldon range finder have been made, also further tests of the Aide-Tireur and the Unge. As compared with the calculated ranges over which they were tested, the ranges obtained by these instruments are all too great. It might be practicable to determine the "index error" of each instrument if it is deemed necessary.

The Gordon range finder and the Fiske stadimeter were inspected by the board.

Very respectfully, your obedient servant,

HENRY L. HARRIS,

First Lieutenant, First Artillery, Executive Officer of Board.

Col. A. C. M. PENNINGTON,

Fourth Artillery, President of the Board to

Test Range Finders, Governors Island, N. Y.

Table showing percentages of errors in observations with range finders made at The Narrows, New York Harbor, October 16, 1894.

[Range finder under test, Watkins depression, 175 feet above water. Set on No. 1, at 1,928 yards.]

No. of observation	Plotted distance	Observed distance	Remarks.
	<i>Yards.</i>	<i>Yards.</i>	
1.....	1,928	1,928	
2.....	2,373	1,928	
3.....	3,428	2,375	
4.....	5,075	2,385	
5.....	5,955	3,470	
6.....	5,300	3,450	
7.....	10,200	6,150	
8.....	4,792	6,300	
9.....	2,976	6,100	
		6,180	
		5,180	To light-house.
		5,225	To shore line.
			Do.
			From Coast Survey chart.
		10,600	
		10,600	
		4,800	
		4,840	
		2,940	
		2,950	

Observations by Lieutenant Harris.

HENRY L. HARRIS,

First Lieutenant, First Artillery, Executive Officer of Board.

Table showing percentages of errors in observations with range finders made at The Narrows, New York Harbor, October 20, 1894.

[Range finder under test, Watkins depression; for repetition. Plotted distances are not absolutely accurate. Set on No. 3, at 3,428 yards.]

No. of observation.	Plotted distance	Observed distance	Remarks.
	<i>Yards.</i>	<i>Yards.</i>	
1.....	1,920	1,912	
2.....	2,366	1,912	
3.....	3,428	2,360	
4.....	5,075	2,360	
5.....	5,955	3,420	
6.....	5,300	3,450	
7.....	10,200	5,250	
8.....	4,792	5,250	
9.....	2,970	5,240	
		5,700	
		5,720	
		5,250	To Coney Island Light-House.
		5,280	To shore line.
			Do.
			From Coast Survey chart.
		10,500	
		10,500	
		4,830	
		4,805	
		2,967	
		2,946	

Table showing percentages of errors in observations with range finders made at The Narrows, New York Harbor, October 20, 1894 - Continued.

[Set on No. 2, at 2,373 yards.]

No. of observation.	Plotted distance.	Observed distance.	Remarks.
	Yards.	Yards.	
1	1,920	1,928 1,929 1,928	
2	2,366	2,375 2,375 2,383	
3	4,792	4,890 4,850	
4	4,792	4,890	
4	2,976	2,975 2,955 2,975	

[Set on No. 3, at 3,428 yards.]

1	1,920	1,915 1,909 1,909 1,909 1,909	
2	2,366	2,358 2,358 2,355 2,350	
3	3,428	3,428 3,435 3,435 3,440	
4	1,785	1,778 1,778 1,775 1,778	Buoy 11.
5	4,600?	4,775 4,775 4,780 4,785	Buoy 9.
6	4,792	4,825 4,808 4,840 4,825	
7	2,976	2,940 2,955 2,950 2,970	

[Set on No. 1 at 1,915 yards.]

1	1,920	1,915 1,919 1,912 1,913	
2	2,366	2,366 2,361 2,365 2,367	
3	3,428	3,455 3,450 3,455 3,455	
4	1,785	1,780 1,788 1,790 1,785	Buoy 11.
5	4,600?	4,810 4,838 4,830 4,825	Buoy 9.
6	4,792	4,850 4,875 4,855 4,850	
7	2,976	2,980 2,980 2,965 2,970	

Table showing percentages of errors in observations with range finders made at The Narrows, New York Harbor, October 20, 1894—Continued.

[Set on No. 2, at 2,373 yards.]

No. of observation.	Plotted distance.	Observed distance.	Remarks.
	Yards.	Yards.	
1.....	1,920	1,922 1,922 1,915	
2.....	2,366	2,372 2,370 2,370	
3.....	3,428	3,455 3,452 3,460	
4.....	1,785	1,798 1,800 1,796	Buoy 11.
5.....	4,690?	4,850 4,860 4,850	Buoy 9.

Observations by Lieutenant Harris.

HENRY L. HARRIS,
First Lieutenant, First Artillery, Executive Officer of Board.

Table showing percentages of errors in observations with position finders, made at The Narrows, New York Harbor, June 21, 1895.

[Position finder under test, Lewis, model of 1895. Preliminary.]

No. of obser- vation.	Plotted distance.	Observed distance.	Plotted azimuth.	Observed azimuth.	Remarks.
	Yards.	Yards.	° ' "	° ' "	
A. M., 1.....		4,110	333 06 50	333 7 20	Shore line, Coney Island Light.
2.....	5,355	5,360	343 22 30	343 23 40	Buoy 12.
3.....	8,752	8,830	6 12 10	6 08 10	Buoy 7.
4.....	5,005	5,015	10 39 30	10 29 00	Buoy 9.
5.....		5,340	16 52 30	16 48 30	Shore line, lower quarantine flag.
6.....	2,813	2,800	17 59 00	17 49 10	Craven Shoal buoy.
7.....		3,880	30 41 30	38 38 00	Shore line, upper quarantine flag.
8.....	2,672	2,660	37 43 00	37 30 00	Buoy 11.
9.....	2,305	2,305	50 25 00	50 21 00	Bell buoy.
10.....	2,671	2,660	37 43 00	37 29 00	Buoy 11.
11.....	2,813	2,810	18 00 00	17 49 30	Craven Shoal buoy.
12.....	5,005	5,040	10 37 00	10 30 30	Buoy 9.
13.....	8,710	8,810	6 13 00	6 8 20	Buoy 7.
14.....		4,100	333 7 00	333 7 20	Shore line, Coney Island Light.
P. M., 15.....					Not counted. "W" out.
16.....		4,100	333 8 00	333 7 20	Shore line, Coney Island Light.
17.....	5,327	5,350	343 00 29	343 27 00	Buoy 12.
18.....	8,760	8,825	6 14 00	6 11 00	Buoy 7.
19.....	4,997	5,010	10 41 30	10 32 40	Buoy 9.
20.....		5,359	16 56 00	16 48 10	Shore line, lower quarantine flag.
21.....	2,895	2,805	17 59 00	17 49 00	Craven Shoal buoy.
22.....		3,890	30 42 00	30 37 30	Shore line, upper quarantine flag.
23.....	2,662	2,670	37 51 00	37 35 20	Buoy 11.
24.....	2,302	2,305	50 30 00	50 30 40	Bell buoy.
25.....	2,036	2,050	4 37 00	4 45 45	Boat going out.
26.....		2,340			Boat going out. Lost at Wadsworth.
27.....	2,552	2,590	358 00 00	357 46 00	Boat going out.
28.....	2,803	2,865	355 32 00	355 22 20	Do.
29.....	3,610	3,700	350 7 00	349 56 00	Do.
30.....	2,325	2,290	34 35 00	34 30 20	Tug coming in.
31.....	2,174	2,180	43 44 00	41 34 30	Do.
32.....	2,077	2,060	57 11 00	54 6 40	Do.
33.....	1,020	950	32 00 00	31 50 40	Tug going out.
34.....	1,100	1,080	25 22 00	25 13 20	Do.
35.....	1,220	1,205	19 51 00	19 50 10	Do.
36.....	1,360	1,340	15 35 00	15 24 00	Do.
37.....	1,782	1,790	5 21 00	5 6 00	Do.
38.....	2,866	2,930	345 9 00	344 59 00	Coney Island boat out.
39.....	3,270	3,380	344 5 00	344 00 10	Do.
40.....	3,648	3,700	343 23 00	343 15 20	Do.
41.....	4,340	4,380	340 57 00	340 53 00	Do.
42.....	3,500	2,130	316 57 00	337 9 30	Coney Island boat in.
43.....					Coney Island boat in. Wrong steamer.
44.....	2,658	2,690	352 22 00	347 16 40	Coney Island boat in.
45.....	1,872	1,880	00 25 30	00 13 30	Do.

* Fiske and Lewis give azimuth about right, and both points plotted from their observations nearly coincide.

HENRY L. HARRIS,
First Lieutenant, First Artillery, Executive Officer Range Finder Board.

Table showing percentages of errors in observations with position finders, made at The Narrows, New York Harbor, June 21, 1895—Continued.

[Position finder under test, Fiske model of 1895. Preliminary.]

No. of obser- vation.	Plotted distance.	Observed distance.	Plotted azimuth.	Observed azimuth.	Remarks.
	<i>Yards.</i>	<i>Yards.</i>	<i>° ' "</i>	<i>° ' "</i>	
A. M. 1.....	4,434	4,425	332 59 00	332 59 50	Coney Island Light.
2....	5,520	5,530	342 57 00	342 58 40	Buoy 12.
3....	8,897	8,980	5 23 00	5 5 00	Buoy 7.
4....	5,133	5,155	9 17 00	9 12 20	Buoy 9.
5....	5,495	5,505	15 30 00	15 28 00	Lower quarantine flagstaff.
6....	2,928	2,920	15 28 00	15 14 50	Craven Shoal buoy.
7....	4,012	3,993	28 22 00	28 25 10	Upper quarantine flagstaff.
8....	2,738	2,725	34 15 00	34 3 00	Buoy 11.
9....	2,338	2,320	46 14 00	46 4 10	Bell buoy.
10....	2,738	2,725	34 15 00	34 3 00	Buoy 11.
11....	2,928	2,920	15 28 00	15 14 50	Craven Shoal.
12....	5,133	5,155	9 17 00	9 14 30	Buoy 9.
13....	8,850	8,935	5 29 00	6 30 20	Buoy 7.
14....	4,434	4,410	332 59 00	332 59 40	Coney Island Light.
P. M. 15.....					Not counted. "W" out.
16....	4,424	4,420	332 59 00	332 59 50	Coney Island Light.
17....	5,500	5,510	342 59 00	343 1 30	Buoy 12.
18....	8,900	8,925	5 29 00	5 31 00	Buoy 7.
19....	5,175	5,145	9 17 00	9 14 30	Buoy 9.
20....	5,500	5,495	15 30 00	15 28 30	Lower quarantine flag.
21....	2,920	2,920	15 25 00	15 15 00	Craven Shoal buoy.
22....	4,014	3,990	28 20 00	28 25 20	Upper quarantine flag.
23....	2,730	2,715	34 16 00	34 8 50	Buoy 11.
24....	2,352	2,310	46 14 00	46 12 20	Bell buoy.
25....	2,180	2,185	2 7 00	2 5 00	Boat going out.
26....					Boat going out. Lost at Wadsworth.
27....	2,703	2,700	356 60 14	355 59 40	Boat going out.
28....	2,858	2,975	353 57 00	351 53 50	Do.
29....	3,770	3,775	349 5 00	349 1 10	Do.
30....	2,400	2,385	30 44 00	30 42 00	Tug coming in.
31....	2,228	2,240	39 15 00	37 16 50	Do.
32....	2,090	2,085	32 30 00	49 35 40	Do.
33....	1,103	1,072	23 54 00	23 32 00	Tug going out.
34....	1,301	1,300	18 28 00	18 17 00	Do.
35....	1,332	1,335	14 00 00	14 00 30	Do.
36....	1,480	1,480	10 33 00	10 31 10	Do.
37....	1,922	1,925	2 07 00	2 2 50	Do.
38....	3,034	3,042	344 12 00	344 07 10	Coney Island boat out.
39....	3,440	3,465	343 19 00	343 18 30	Do.
40....	3,811	3,825	342 41 00	342 39 00	Do.
41....	4,510	4,510	340 29 00	340 21 50	Do.
42....	3,668	3,648	346 19 00	346 08 50	Do.
43....					Coney Island boat out. Lost.
44....	2,810	2,810	350 56 00	351 55 10	Coney Island boat out.
45....	2,022	2,015	357 45 00	357 44 20	Do.

* Fiske and Lewis give about the correct azimuth, and both points plotted from their observations nearly coincide.

Compiled by Lieutenant Harris. Plotting by Lieutenants Rafferty and Harris.

Observers—A, Lieutenant Hawthorne, W, Lieutenant Harmon, L, Lieutenant Lewis, Fa, Mr. Hathaway, B, Mr. Hall.

HENRY L. HARRIS,

First Lieutenant, First Artillery, Executive Officer Range Finder Board.

Table showing percentages of errors in observations with position finders, made at The Narrows, New York Harbor, June 25, 1895.

[Position finder under test, Lewis, model of 1895.]

No. of observation.	Plotted distance.	Observed distance.	Remarks.
	<i>Yards.</i>	<i>Yards.</i>	
1.....			Shore line only. Coney Island Light.
2.....	5,340	5,355	Buoy 12.
3.....			Buoy 7. Lost at Fiske.
4.....			Bell, Swinburne. Lost at Fiske.
5.....	5,005	5,000	Buoy 9.
6.....			Shore line only. Lower quarantine.
7.....	2,803	2,805	Craven Shoal.
8.....			Shore line only. Upper quarantine.
9.....	2,663	2,665	Buoy 11.
10.....	2,307	2,300	Bell W.
11.....			Shore line only. Elm-tree beacon.
12.....	2,307	2,300	Bell W.
13.....	2,663	2,665	Buoy 11.
14.....			Craven Shoal. Lost at Fiske.
15.....	5,005	5,010	Buoy 9.
16.....			Buoy 7. Lost at Fiske.
17.....	5,340	5,350	Buoy 12.
18.....			Shore line only. Coney Island Light.
19.....	2,663	2,665	Schooner in.
20.....	2,718	2,730	Do.
21.....	2,773	2,795	Do.
22.....	2,841	2,860	Do.
23.....	2,898	2,930	Do.
24.....			Steamboat in. Lost at Fiske.
25.....			Do.
26.....			Do.
27.....			Do.
28.....	3,579	3,568	Steamboat in.
29.....	3,253	3,230	Do.
30.....	2,923	2,928	Do.
31.....	1,321	1,300	Steamboat out.
32.....	1,607	1,600	Do.
33.....			Steamboat out. Lost at Fiske.
34.....	2,342	2,310	Steamboat out.
35.....			Steamboat out. Lost at Fiske.
36.....			Do.
37.....			Do.
38.....			Do.
39.....			Steamer in. Lost at Fiske.
40.....			Do.
41.....	8,273	8,650	Steamer in.
42.....	7,928	8,200	Do.
43.....	7,598	7,830	Do.
44.....			Steamer in. Lost at Fiske.
45.....	6,907	7,080	Steamer in.
46.....	6,562	6,720	Do.
47.....	6,256	6,390	Do.
48.....	5,916	6,060	Do.
49.....	5,621	5,750	Do.
50.....	5,280	5,400	Do.
51.....			Steamer in. Lost at Wadsworth.

Compiled from records and plot.

HENRY L. HARRIS,
First Lieutenant, First Artillery, Executive Officer Range Finder Board.

Table showing percentages of errors in observations with position finder, made at The Narrows, New York Harbor, June 20, 1896.

(Position finder under test, Fiske, model of 1895.)

No. of observation	Plotted distance	Observed distance	Remarks
	Faths.	Yards.	
1	4,423	4,415	Coney Island Light
2	5,485	5,510	Buoy 12
3			Buoy 7 * Lost at Fiske.
4			Bell, Swinburne * Lost at Fiske.
5	5,133	5,155	Buoy 9
6	5,505	5,500	Lower quarantine flag
7	2,915	2,918	Craven Shoal buoy.
8	4,004	3,995	Upper quarantine flag.
9	2,721	2,725	Buoy 11
10	2,232	2,320	Bell buoy, Wadsworth
11 (1)	7,927	7,850	Elm tree beacon.
12	2,332	2,320	Bell buoy, Wadsworth.
13	2,721	2,723	Buoy 11
14			Craven Shoal buoy. Lost at Fiske.
15	5,133	5,158	Buoy 9.
16			Buoy 7 Lost at Fiske.
17	5,495	5,535	Buoy 12
18	4,422	4,415	Coney Island Light.
19	2,893	2,818	Schooner out.
20	2,858	2,875	Do
21	2,918	2,840	Do.
22	2,991	3,008	Do.
23	3,053	3,060	Do.
24			Steamboat in.* Lost at Fiske.
25			Do *
26			Do.*
27			Do.*
28	3,749	3,740	Steamboat in.
29	3,423	3,420	Do.
30	3,083	3,080	Do.
31	1,401	1,400	Steamboat out.
32	1,720	1,725	Do.
33			Steamboat out.* Lost at Fiske.
34	2,487	2,460	Steamboat out
35			Steamboat out * Lost at Fiske.
36			Do *
37			Do *
38			Do.*
39			Steamer in.* Lost at Fiske.
40			Do *
41	8,413	8,540	Steamer in
42	8,073	8,165	Do
43	7,733	7,810	Do
44			Steamer in. Lost at Fiske.
45	7,047	7,120	Steamer in.
46	6,647	6,775	Do.
47	6,386	6,410	Do.
48	6,056	6,130	Do
49	5,764	5,780	Do
50	5,423	5,450	Do.
51			Steamer in Lost at Wadsworth.

* Vessel in the way

Compiled from records and plot.

HENRY I. HARRIS,
First Lieutenant, First Artillery, Executive Officer Range Finder Board.

APPENDIX D.

REPORT OF THE BOARD ON THE REGULATION OF SEACOAST ARTILLERY FIRE.

ARMY BUILDING,
New York City, August 3, 1895.

SIR: The Board on the Regulation of Seacoast Artillery Fire, constituted by Special Orders, No. 273, Headquarters of the Army, Adjutant-General's Office, Washington, D. C., November 20, 1894, respectfully submits herewith its progress report for 1894-95.

The board first met pursuant to the order convening it November 26, 1894, and from that date to the present time its sessions have been practically almost continuous.

The first step taken was to ascertain, through the Adjutant-General's Office, the work already done abroad in the line of artillery-fire control and to gain all possible information on the subject from the various publications on file at the War Department, and all available literature of this nature has been placed at the service of the board by the Department.

The board also, in response to its request, obtained from the Chief of Engineers such plans of fortifications contemplated for the defense of The Narrows as would enable it to proceed intelligently with its work.

A tentative plan of procedure was prepared and duly submitted to you at the time, the first or preliminary step of which has been completely followed out as the means at our disposal have permitted.

MATERIAL AVAILABLE.

Guns and carriages.—The guns available for preliminary experiment were two 8-inch converted rifles at Fort Hamilton and four 8-inch converted rifles at Fort Wadsworth (two of the latter being available only for pointing exercises).

The two guns at Fort Hamilton were found on inspection to be unreliable for accurate practice, and it was necessary to mount two others in their stead; which work has just been completed.

Various small defects found in guns and carriages affecting the ease and rapidity of manipulation were promptly remedied at our request by the commanding officers of the two posts, and both guns and carriages are now in good serviceable condition for the practice firing soon to take place.

Elevation indicating devices.—It was found that the guns at both Forts Wadsworth and Hamilton were provided with no devices for indicating elevation other than the ordinary gunner's quadrants. The board, therefore, realizing the importance of the utmost quickness and accuracy in giving proper elevation to the gun, have devised for use with these guns elevation indicators which have given good results. For another, to be used on the trunnions, an allotment was recently

made by your Board, and it is now in the course of construction. The new gunner's quadrants recently supplied us by the Ordnance Department will be used to check the accuracy of these devices in the preliminary trials, a request having been made for particularly sensitive quadrants to be used for this purpose only.

Traverse circle graduation.—One 8-inch converted rifle at Fort Hamilton was provided with traverse circle graduation reading to 15 minutes and vernier reading to minutes. For the other 8-inch rifle at that post, the traverse circle has been divided to degrees, and a device for a vernier reading to minutes is in course of construction.

Wooden arcs graduated to degrees have been made for the four 8-inch rifles at Fort Wadsworth which were not provided with any means of setting the gun in azimuth, and if the V-shaped vernier above referred to works successfully it will be applied to those guns.

In all these devices proposed by us our idea has been simply to secure for the particular guns available for our use at The Narrows a means of giving elevation and direction in the shortest possible time and with the greatest possible accuracy. In predicted firing, which must be used for seacoast artillery, time is a most important element, and this must be considered in any device or system proposed. Our board appreciates the fact that we are simply to devise and recommend a system for the regulation of seacoast artillery fire, but in the experimental work it is necessary to have the aid of the most perfect instruments available, and it is only with this in view that we have asked for certain devices to be supplied to these guns.

Ammunition for practice.—Eighty rounds of ammunition for the 8-inch converted rifle for experimental practice have been received, and should our board be able to secure the use of a steam launch for setting our targets we propose to have some experimental firing in September next, after the close of the annual artillery practice at The Narrows.

Targets.—The commanding officer at Fort Hamilton has placed at our disposal four targets, which will probably answer our needs for the present. It is desirable, however, that we should be able to fire at a moving target in order to perfect a practical system of predicted firing. This subject will be reported on at a later date.

Time indicators.—The stop watches used for this purpose at both forts are not in serviceable condition, and should be repaired or replaced by new ones.

Lines of communication.—On the recommendation of this board a three-cored submarine cable, heavily armored, has been laid across The Narrows, and, with the materials purchased by the last allotment made for this purpose four distinct lines of communication will be available for practice (this includes the old single-cored cable, which will last for some time yet), and we will therefore be able to carry the practical development of the problem of fire control beyond the preliminary stage.

At Fort Hamilton there are four telephones with ordinary receivers, and three with head receivers have been asked for, and the request has been approved by your Board. Two of these (without head receivers) have already been received. When complete, this supply will be sufficient for present needs.

We have also at Fort Hamilton three ink-writing Morse registers, which were purchased by your Board in 1893 for Lieutenant Rafferty, but these have not yet been thoroughly tested.

Some correspondence has been had with the Gray Telautograph Company, with a view to securing a set of their instruments for practical test, but we are not yet prepared to take any action in the matter.

All batteries used belong to the posts. There are now four separate telephone lines and one telegraph line in working order at Fort Hamilton, with a total length of about 1,500 yards. At Fort Wadsworth there are three telephone lines in operation, with a total length of about 1,300 yards. The cable between the two posts is 6,000 feet in length, thus making in all about 14,400 feet, or 4,800 yards, as the length of lines actually constructed. A metallic circuit is used throughout.

Methods of relocation.—The board has had the use of one Rafferty relocator, which was constructed to connect one gun at Fort Hamilton with the Hamilton end of the Hamilton-Wadsworth base. Lieutenant Rafferty has had made a spacing piece, which enables the instrument to be used with the Lewis position finder at Fort Hamilton and a tentative spacing piece for use with the Hamilton-Wadsworth base, with a view of using the azimuth angles from A and W stations for obtaining directly the range and azimuth at the gun.

The results secured with this relocator have been highly satisfactory. The converter board devised by Lieut. E. A. Millar, Third United States Artillery, to be used for the same purpose, is not yet ready for test, and we are therefore unable to make any recommendations in the matter at the present time.

Systems and methods proposed.—Several proposed systems of conducting seacoast artillery firing have been submitted to our board, and we have given them due study and consideration, but as yet are not prepared to make any satisfactory report on any of them.

CONCLUSIONS.

We feel constrained in this report to present only certain facts, with a bare statement of the preliminary work accomplished, without making any definite recommendations.

We hope, however, within the next few months, to be able to present to your Board results and recommendations which, if approved and carried out, will give our artillery a system of fire control applicable to all seacoast fortifications, so far as daylight firing is concerned. For night work there are so many new elements to be considered that much more time may be necessary for its proper consideration.

We desire to express our appreciation of the assistance given us in our work by the commanding officers of Forts Hamilton and Wadsworth, and particularly of the prompt action on our requests by the commanding officer of the New York Arsenal.

HENRY L. HARRIS,
First Lieutenant, First Artillery, President.

W. O. RAFFERTY,
First Lieutenant, First Artillery, Member.

I. N. LEWIS,
First Lieutenant, Second Artillery, Recorder.

The RECORDER,
Board of Ordnance and Fortification, Washington, D. C.

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